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THIS WEEK'S NEWS

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THE RESPONSIBILITIES of the Crystal Palace Trustees under the Crystal Palace Act, 1914, are, it is proposed, to be transferred to the London County Council. 316

PLANS for the future development of Reading University are now being laid. The architects are Messrs. Easton and Robertson, A.R.A. 316

ANSWERS TO RECENT CRITICISMS regarding the crowd capacity of the F.O.B. South Bank Exhibition site were given by Mr. Hugh Casson in a paper read at the R.I.B.A. 320

THE RESULTS have been announced of the competitions for the design of rural and urban community centres sponsored by the Incorporated Association of Architects and Surveyors. 322

THE LONDON COUNTY COUNCIL has received proposals made jointly by the Town Planning and Housing Committees to permit, for an experimental period of one year, a minimum height of 8 ft. from floor to ceiling of habitable rooms on all floors of new dwellings. Former minima were 8 ft. 6 in. on all floors except the top, where 8 ft. was allowed. 339

MR. ROBERT O. LLOYD, President, N.F.B.T.E., has emphasised the strong influence adequate preplanning can have on increasing productivity. 340

"TAKE A DOZEN EGGS . . ."

IN the days when one *could* take a dozen eggs it was possible, by following one of Mrs. Beeton's recipes with accuracy and reasonable skill, to produce a satisfactory dish; failure, if it occurred, was never the fault of the author, whose competence in cookery was unassailable and whose style, though severe, was a model of clarity and precision.

The efforts of many would-be Beetons to serve as faithfully the sister art of Architecture have somehow never come off, except in the eighteenth century when chef Burlington managed to create four or five recipes (a following age, however, pronounced them monotonous, indigestible and tasteless, and devoted itself to hotchpotches instead). Burlington's partial success followed from the qualities he shared with Mrs. Beeton: he knew what he wanted, knew how to do it—or at least whom to get to do it—and made no bones about giving direct orders, like "Take a dozen eggs . . ." How unlike Lord Burlington are his successors in architectural patronage, the Government Departments!

The Ministry of Education's Building Bulletin No. 2 provokes these irreverent remarks and it seems worth while to estimate in more general terms the value of these official cookery books, the second of which, incidentally, confirms the impression given by the first that the Ministry is now virtually a branch of the Hertfordshire County Architect's department. The cover design of both bulletins with their banal lettering is poor, but otherwise the presentation, draughtsmanship and much of the detailed information inspire confidence. An astonishing virtuosity in drawing in plan every possible denizen of a school is combined with real knowledge on questions like how high is a locker and how many books are there in a school store. Obviously many schools have been visited and many people interviewed by many careful and conscientious Ministry of Education architects. Clearly, also, these architects are in touch with educationists at the highest levels; though it does not follow that the educationists agree with everything they propose. Still less certain is the approval of the teachers who will have to make the new schools work.

They are unlikely to welcome, for instance, the proposal in Bulletin No. 2 to use classrooms as dining space: folding back the partitions between the classrooms, re-arranging the furniture, serving meals in two shifts, clearing up evidence of "accidents" during the meals, opening windows and allowing time for the smells of food to be blown away and closing them for the rooms to be warmed up quickly afterwards, and putting back the furniture and partitions, all in the lunch interval, is a process likely to degrade school meals from a social occasion to a sordid scramble. Nor will the partially dissected classrooms be a particularly attractive environment for a meal. Though these classrooms open into a circulation area and not into each other, the movable partitions will, even so, hardly be sufficiently sound-resisting to prevent mutual interference. Throughout the Bulletin the importance of planning against noise is sometimes minimised and sometimes ignored: one scheme for the assembly hall shows it separated from a music room by that virtual impossibility, a sound-resisting folding partition. Another plan shows classrooms opening off an enlarged landing labelled "Workroom"; practical work of any vigour in such a place would obviously invite protests from the adjoining classrooms, since the doctrine that a high level of masking noise reduces the need for insulation breaks down at the moment when two adjoining classes undertake quiet and noisy tasks respectively.

If the need for economy of floor area is to reduce us to some of the expedients illustrated in the Bulletin we might as well go back all the way to the old central hall plan which, incidentally, is still used with great architectural effect in the Scandinavian countries.

If time did not permit the full investigation of these questionable expedients—and only full-size practical tests could give the final answer—the Ministry would surely have done better to confine themselves to broad principles, stating that under-exploited areas such as halls used only for dining can no longer be afforded, and—for instance—that to provide south aspect for all teaching spaces at the expense of compactness is no longer obligatory. As it is, the proposals in the Bulletin are sufficiently detailed to encroach on the freedom of the creative architect (for the lightest suggestions of people with power to disapprove must be taken seriously) and yet not full and exact enough to give his more pedestrian colleague the guidance he needs. Democracy, we were told recently, consists in "saying what you like, where you like, but doing what you're damn well told." The Ministry are perhaps half in agreement when, for example, they scold the whole country (except presumably Hertfordshire) for not toeing the line about prefabrication. The power to command, however, carries with it the obligation of being always right. If we cannot have reliable and complete recipes on the one hand, we must on the other claim the liberty of preparing our dishes in our own way, subject to a comprehensive and firmly-based Philosophy of Cooking propounded by the Ministry and generally agreed. In the absence of either rules or principles the results are only too likely to be half-baked.

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NOTES AND NEWS

The Crystal Palace.

THE concurrence of the Crystal Palace Trustees with the London County Council's proposal to promote legislation to transfer to the L.C.C. the Trustees' responsibilities under the Crystal Palace Act, 1914, for the entire control and management of the Palace and park as a place for education and recreation and the promotion of industry, commerce and art, opens a new phase in the long and eventful history of the Palace. In addition to the freehold of the 200-acre site, the Trustees hope to hand over a sum of about £230,000 as well as an income of some £2,000 a year. These are considerable assets and it will be interesting to see what use can be made of them under present conditions. It is estimated that some £109,000 would be required on a short-term basis for works designed to give the public "a substantial measure of amenity" in the area other than that of the site of the Crystal Palace itself, which, in these days of high costs, would not leave much of a balance for major works, even if it were possible to carry them out. The cost of erecting the new Palace buildings in accordance with the winning design in the competition held just after the war would be about £9,000,000 at to-day's prices; will it ever be carried out? The plan was generally agreed to be an excellent one, but the elevations came in for a good deal of criticism. Who knows what changes in requirements may be necessary by the time it is possible to build? We trust, however, that justice will be done to the winners of the competition, whatever happens.

Culture for the Masses.

WHATEVER may be done at Sydenham under the new régime, it is unlikely that we shall ever again see under one roof such a display of historic architecture and sculpture as Paxton's great building contained. The Victorians went to almost incredible trouble to bring culture to the masses. In 1852, just after the first column of the Palace had been set up at Sydenham, Owen Jones and Digby Wyatt, fortified by letters from Lord Malmesbury, then Secretary of State, set out to scour the continent of Europe for examples of the principal works of art. It is recorded that, with some few exceptions, they met with the most cordial co-operation. The result was 542 exact copies of famous pieces of statuary and 556 equally famous busts. It was impossible to take more than a few steps along those acres of boarded, echoing floor—now alas! only a memory—without being confronted with a copy of some great masterpiece of art—the Venus de Milo, the Belvedere Apollo from the Vatican, the Minerva from the Dresden Museum, Sansovino's David from the Loggia, Venice, and so forth. The great series of Architectural Courts—Egyptian, Greek, Roman, the Alhambra, Byzantine, German, English, French, and Italian, Mediæval, Renaissance—was superb, and correct in every detail; in fact, it was a unique conspectus of historic architecture, of immense value to students, though whether the general public appreciated it is doubtful. Even on the most crowded days the Courts would be almost deserted. We recall a Good Friday, many years ago, the Palace being literally packed with people for the afternoon concert, when the only occupant of the Temple of Karnak, apart from ourselves, was the great Santley, smoking a surreptitious pipe during the interval.

Strengthening Famous Bridges.

Two famous bridges are in the news just at present. The first is Magdalen Bridge, Oxford, where work of strengthening, to support the increasing weight of traffic, will begin within the next few days. The process of cementation will be employed and the work will be done by the Cementation Co., Ltd. Plant is already on the site ready for drilling operations to start.

The original bridge, that is to say the northern part of the present bridge, was erected in 1773, and there are doubts as to whether it is structurally sound under the heavy traffic to-day. It was considered that the repairs should not only prevent the percolation of water through the road surface to the bridge arches but should also strengthen the bridge superstructure. The new part of the bridge—the widenings carried out in 1883—are structurally sound but will receive the same treatment by cementation.

East Suffolk County Council have agreed to proposals for the reconstruction of Flatford Bridge, the wooden structure over the River Stour. If the committee's recommendations are approved by the council the reconstructed Flatford Bridge, hitherto only a footbridge, will carry vehicles up to eight tons in weight. It was agreed that to preserve the amenities and character of the area the new bridge should be of almost identical design with the present bridge. The committee recommend the use of Burmese timber instead of English oak which was used when the bridge was reconstructed in 1911.

Postponement of R.G.M. Presentation.

THE R.I.B.A. announce that unfortunately Professor Eliel Saarinen cannot come to England for the meeting arranged for April 4, when he was to be presented with the Royal Gold Medal. This General Meeting has accordingly been cancelled, but it is, however, hoped to arrange for the presentation later in the year, when it is expected that Professor Saarinen will be able to visit England.

Building Proposals for Cambridge.

THE RECOMMENDATIONS of a special committee set up to investigate the possibility of building lecture rooms and libraries on a site near the Backs have now been submitted to Cambridge University authorities. The scheme includes provision of new lecture rooms and libraries for most of the arts faculties on a 13-acre site in Sedgwick-avenue, opposite Newnham College, new buildings for which were illustrated in our issue for January 13 last.

Priority is accorded the schools for modern and mediæval languages and the faculty for economics and politics.

The scheme also provides for space for the schools of architecture, music and divinity, but it is considered that lecture rooms are the most urgent need.

It is also suggested that space be reserved for a tiered theatre to hold 1,000 people, and a further suggestion is that the site should include a restaurant for both senior and junior members of the university.

Reading University Development.

PLANS for the future development of the University at Whiteknights Park are being laid by the Council of Reading University. The first step will be for the erection of a hall to house 150 men students. Plans have been submitted and the architects (Messrs. Easton and Robertson, A.R.A., 54, Bedford-square, W.C.1) and the joint planning committee have met to discuss the siting of the main teaching and administrative buildings.

Precinct Planning.

MR. FREDERICK GIBBERD'S recent Third Programme talk on "Urban Spaces" was a clear exposition of the possibilities open to us in the design of new towns and in the reconstruction of existing (or part existing) ones. His word picture of charming "precincts," connected to each other by traffic roads but in themselves havens of salubrity, was attractive indeed and, as Mr. Gibberd added, such an ideal must not be thought possible only in our still fairly distant new towns, but could be incorporated in many of our older centres, several of which are in need of such improvements.

The bridge at Flatford Mill. *(See Note.)*

Precinct planning, which has its origin way back in the Middle Ages, if not earlier, is something which has never been fully developed in this country. Too many of our towns are unnecessarily dreary and featureless, and although it is true that in time most of us can get used to almost anything there seems to be no valid reason why so many of us should continue to live in towns so devoid of charm and interest. The large areas in our towns laid waste through war damage should provide an admirable opportunity to exercise some of the best principles of precinct planning when reconstruction work begins on a large scale.

Broadcast Talks on London.

A SERIES of four talks on the County of London and Greater London Plans is to be given in the B.B.C. Third Programme. In the first talk, on March 18, Mr. John Summerson, an authority on Georgian architecture, and curator of Sir John Soane's Museum, will give an historical account of the growth of London. On the following day, Mr. Peter Shepheard, F.R.I.B.A., A.M.T.P.I., will discuss the question "What is wrong with London?" and will analyse the present situation. On March 28 Mr. Shepheard will take part in a "critical conversation" about the plans for London. The final programme will take place during the first week in April, when a speaker not yet named will take as his topic "How will the plans work?"

New Junior Ministers.

AMONG the appointments which the King has approved in the new Government are the following: Mr. Arthur Blenkinsop, Parliamentary Secretary, Ministry of Health, and Mr. George Samuel Lindgren, Parliamentary Secretary, Ministry of Town and Country Planning. The King has also approved the continuance in office of Lord Morrison, Parliamentary Secretary, Ministry of Works.

National Parks Secretary.

THE NATIONAL PARKS COMMISSION has appointed as its Secretary Mr. Harold M. Abrahams, the well-known athlete who represented Britain in the Olympic Games in 1920, 1924 and 1928, and won the 100 metres in 1924. Mr. Abrahams joined the Ministry of Town and Country Planning in 1945, and from 1947 to 1948 was Regional Controller of the Ministry at Cambridge.

Lord Burlington and his Circle.

THE GEORGIAN GROUP is holding a reception in the Royal Academy Rooms, Burlington House, W.1, on Thursday, March 16. A number of portraits, original drawings, books and photographs illustrative of the work of Burlington and his circle is being assembled for the occasion. The reception will be for members only.

Architecture Club Supper.

A SUPPER of the Architecture Club, held at the Hermitage Restaurant, Dover-street, on March 1, was followed by a debate on "Can the Craftsman Survive?" Viscount Esher presided, and contributions to the debate were made by Professor A. E. Richardson, R.A., F.R.I.B.A., and Mr. Frederick Gibberd, F.R.I.B.A., A.M.T.P.I.

Crawley Plan Changes.

A SUGGESTION that Crawley New Town Corporation should plan for a total population of 60,000, a somewhat larger figure than had been contemplated, has been made by the Ministry of Town and Country Planning of the last Government in expressing general approval of the master plan for Crawley. The contents of the letter conveying this approval to the corporation have now been made known.

To achieve the suggested population increase, it is suggested that there should be a density of 50 persons an acre in the inner neighbourhoods instead of the figure of 36 provided for in the master plan, and 30 persons an acre in the outer neighbourhoods instead of between 22 and 30. This modification would help towards relieving the congestion of London.

It was also suggested that the Corporation should plan for an industrial population of 13,000 instead of 8,500.

Other suggestions made in the letter were that the shopping habits of people should be watched and, if necessary, the ratio of shops in the neighbourhood and town centres adjusted, and that the need for certain proposed roads should be clearly established before land is reserved for them.

Two New Appointments.

THE MINISTER of Town and Country Planning has appointed General Sir Charles King, K.B.E., and Mr. Alexander Hyman, members of Crawley Development Corporation, in place of Mr. E. W. Pasold and Mr. A. Benson, C.B.E., both of whom resigned owing to pressure of other work. The other members of the Corporation have been reappointed.

New L.C.C. Housing Division.

WHEN THE LONDON COUNTY COUNCIL decided in December last year to transfer back to the Architect to the Council the responsibility for the design and erection of all new housing schemes, authority was also given for a number of appointments. These included a principal housing architect, an assistant housing architect and supporting staff. The Housing Division will be under the general direction of the Architect, Mr. Robert H. Matthew, and will work directly under the Deputy Architect, Mr. J. Leslie Martin, who will be responsible for the general policy of architectural development.

The Principal Housing Architect appointed by the Council on March 8 last is Mr. H. J. Whitfield Lewis, A.R.I.B.A., who for several years was chief assistant to Mr. Serge Chermayeff, F.R.I.B.A., and worked in a principal capacity on such buildings as Bexhill Pavilion, Messrs. Gilbey's offices and Mr. Chermayeff's house at Halland, Sussex. More recently he has been an associate in the firm of Norman and Dawbarn, in charge of all housing work, including housing schemes at St. Pancras-way, N.W.1, and Greenwood-road, Hackney.

As Assistant Housing Architect the Council has appointed Mr. M. C. L. Powell, B.A. (Cantab.), A.R.I.B.A., a partner in the firm of Powell and Moya, a firm who have been responsible for large-scale housing development at Pimlico for the Westminster City Council.

These candidates were selected from a large field of applicants, and will take up their new duties as soon as they can be released from their present commitments.

L.C.C. Architect's Department Posts.

THE LONDON COUNTY COUNCIL invites applications for the following positions in the Architect's Department:—(1) Schools Architect, to be responsible to the Architect for the Schools Division (salary, £1,500×£100—£1,700); (2) Assistant Schools Architect, to assist the Schools Architect, mainly in the sphere of design (salary, £1,250×£75—£1,550); and (3) Principal Assistant (Professional), to take charge of a group in the Schools Division (salary, £960×£40—£1,000×£50—£1,100). There are no age limits for these posts, further details, of which are given in our advertisement columns.

Professional Announcement.

MR. LEONARD BULMER, L.R.I.B.A., and MR. ALAN WILSON, A.R.I.B.A., have joined Messrs. Johnson and Crabtree, FF.R.I.B.A., in partnership. The practice will continue as Johnson and Crabtree at 20, Priory-place, Doncaster, and at 8, Robert Adam-street, London, W.C.1.

FROM "THE BUILDER" OF 1850

Saturday, March 9, 1850.

LOW PRICE OF TIMBER.—At a sale of timber held in Worcester during the past week, 23 large elm trees, and 68 prime hearty oak trees were sold by auction; the former realising at from 8d. to 11d. per cube foot and the latter from 1s. 3d. to 2s. 1d.

COMING EVENTS

Monday, March 13.

R.I.C.S.—"Practical Application of Modern Research into the Properties of Wood," by Dr. H. E. Desch, Ph.D., M.A. 12, Great George-street, S.W.1. 5.30 p.m.

Tuesday, March 14.

R.I.C.S.—Annual Dinner. Grosvenor House, Park-lane. 6.30 p.m.

ARCHITECTURAL SCIENCE BOARD.—"Light Alloys as Structural Materials," by Mr. G. Wood, B.Sc. R.I.B.A., 66, Portland-place, W.1. 6 p.m.

THE HOUSING CENTRE TRUST.—"Housing in the U.S.S.R." by Professor J. D. Bernal, F.R.S. 13, Suffolk-street, Haymarket, S.W.1. 1.15 p.m.

Wednesday, March 15.

TOWN AND COUNTRY PLANNING ASSOCIATION.—"The Future of the Plan of the City of London," by Mr. H. Anthony Mealand, planning officer to the Corporation of London. 28, King-street, London, W.C.2. 6.15 p.m.

ARCHITECTURAL ASSOCIATION.—A musical evening—"Old Music and Old Instruments." A.A., 36, Bedford-square. 8 p.m.

THE LONDON SOCIETY.—A lantern lecture on "The London Pub in the London Scene," by Lt.-Col. John Codrington. The Royal Society of Arts, 6-8, John Adam-street, Adelphi. 5.15 p.m.

INSTITUTION OF HEATING AND VENTILATING ENGINEERS, LONDON AND DISTRICT ASSOCIATE MEMBERS' AND GRADUATES' SECTION.—"Flues for Gas-Fired Boilers," by Mr. D. MacIntyre, M.Inst.F. Holborn Town Hall, W.C.1. 6.30 p.m.

INSTITUTION OF HEATING AND VENTILATING ENGINEERS, SOUTH-WESTERN BRANCH.—"Corrosion of Metals," by Mr. G. E. C. Coates, M.A., B.Sc. R.W.A. School of Architecture, Bristol. 6.30 p.m.

Thursday, March 16.

THE GEORGIAN GROUP.—Exhibition of the work of Lord Burlington and his Circle. Royal Academy Rooms, Burlington House, W.1. Evening. (Members only.)

MINISTRY OF WORKS.—Exhibition of Modern Building Methods, Royal Scottish Museum (Main Hall), Chambers-street. Open daily 10 a.m.-5 p.m. Continuing to March 25.

BUILDING INDUSTRIES LUNCHEON CLUB.—A lunch to be followed by an address on "Election Policies for Housing," by Mr. Alfred Edwards, ex-M.P. for Middlesbrough East. Hungaria Restaurant, Lower Regent-street, S.W.1. 12.30 p.m.

SOCIETY OF CHEMICAL INDUSTRY (ROAD AND BUILDING MATERIALS GROUP).—"The Evenness of Distribution of Tar by Mechanical Sprayers," by Messrs. G. H. Fuidge and A. L. Deadman, of the South-Eastern Gas Board. 11, Upper Belgrave-street, S.W.1. 6 p.m.

Friday, March 17.

ARCHITECTS' REGISTRATION COUNCIL OF THE UNITED KINGDOM.—Meeting of Council. 66, Portland-place, W.1. 2 p.m.

Saturday, March 18.

ARCHITECTURAL ASSOCIATION.—A visit has been arranged to the Pimlico housing scheme and to flats at Draycott-avenue, Chelsea. Party will meet at 36, Bedford-square, W.C.1. 2 p.m.

BUILDING TEACHERS' CONFERENCE.—A conference for building teachers. Wandsworth Technical College, S.W.18. 10.30 a.m.

ORGANISATION OF ARCHITECTS' OFFICES

4.—*The Office of PICTOR, SNAILUM and HUGGINS*

OUR office may be described as one of medium size in a provincial city. It is a fusion of two practices, both started during the latter part of the last century.

Before the 1939 war the personnel consisted of one principal with two assistants, and a secretarial staff of two, but since the end of the war the volume of work has increased to such an extent that the present personnel comprises three partners, seven assistants, a secretary, a junior typist and two office boys.

Personnel

Technically, the Partners have equal status. This, we feel, is essential, in view of the fact that an equal share of responsibility and capital investment is held by each one. The assistants are in some cases qualified and in others of Intermediate R.I.B.A. standard, and work together as a team. We are diffident in expressing the opinion that, apart from exceptional cases, we feel that the most useful assistants are those who are learning the profession in the hard way and are not school-trained.

The Secretary is entirely responsible for the domestic administration of the office, such as ordering materials, making appointments and keeping control of petty cash. In addition, she deals with the partners' correspondence and all office accounts. The junior typist assists her and looks after the telephones, filing, assistants' correspondence, postage, etc.

The two office boys are invaluable for the multitude of tasks such as colouring prints, simple tracing, stencil lettering, assisting on surveys and running errands. When we engage a new boy, we insist on his having the necessary educational standard for him to qualify for Probationership of the R.I.B.A., so that his ultimate aim is to become an architect. This, we think, is only fair to the boy and to the general team spirit of the office.

As far as possible, each partner is responsible for his own group of jobs, with assistants in their turn also responsible, under the partner, for their jobs. Each senior assistant in charge of any job deals direct with specialists, supervision, applications, contract documents, correspondence and all administrative work in connection with the job. This leaves the partners freer for designing, general supervision in the office, dealing with clients, and the major problems of design and administration which constantly arise.

Costing

Owing to the enormous cost of running an office to-day, we keep very careful records of costing, and each assistant keeps a time-sheet, on which is recorded the amount of time, travelling and out-of-pocket expenses on each job on which he has worked during the week. These weekly sheets are then abstracted by the secretary, who transfers all the information to the "job book." Other particulars entered in the "job book" are cost of printing (abstracted from printers' monthly accounts), trunk telephone calls (abstracted from the office telephone book and telephone account), and expenses (abstracted from partners' and assistants' time-sheets). The book also contains records of accounts for fees sent out and payments made in connection with each job. This book represents a complete costing record for each job, and it is a comparatively easy matter to make an appreciation of the financial position of each job at any time. The "job book" is also invaluable for assessing fees for the smaller "quantum" jobs by adding a percentage to assistants' time for overheads and profit.

Time-sheets are not kept by the secretary, typist or office boys, and only by partners when they are engaged solidly for a day or more on directly productive work, such as designing, detailing or site work. Generally speaking, therefore, partners' remuneration is included in the calculated percentage to cover profit.

The overheads and profits percentages have been carefully calculated over a number of years, and include all items not directly bookable to individual jobs, namely, secretarial, rent, and other general expenses.

This is most important in a medium-sized provincial office where a large proportion of the total output of work consists of small jobs such as reports on property, small surveys, small additions and small houses. This "small-job" side of the practice is the most difficult to deal with economically, but as it comprises a very real and necessary service to our clients we rely on our organisation to enable us to give it maximum service with minimum loss to the firm, and we find it extremely bad practice to refuse any job, no matter how small.

There are, however, certain classes of work which we do not undertake. These consist mainly of court cases, valuing and estimating, development charge disputes, and so on. In such cases we recommend firms of quantity surveyors or valuers who specialise in such work, and who, in our opinion, give better and more expert service to the clients concerned.

Charges

All salaries are paid monthly by cheque, and accounts for fees are sent out quarterly. We have no hesitation in saying that the question of professional charges is probably the most difficult side of practice to-day. The many problems involved in the preparation of a correct assessment of fees for each individual case have to be experienced to be believed. The large new building which goes through from inception to completion in a comparatively normal way is a distinct exception, and presents no difficulty whatsoever. But for one case of this sort there may be as many as a dozen or a score of the vexing accounts for smaller work, either new or alterations, abandoned or otherwise. The preparation of these accounts, even with the advantage of comprehensive records as mentioned above, is a real penance for all partners once every quarter, and takes a considerable amount of time. Despite the records, each job has to be assessed on its own particular merits, and the ultimate compilation of a correct fee is either arrived at by a lucky chance or by a curious psychological precognition built up by years of experience.

The Small Job

It may sound heretical to admit this, but it is nevertheless true, and it might be well at this point to ask whether it might be possible for the R.I.B.A. to frame the Scale of Charges in a less ambiguous way in the case of smaller works which comprise such a large part of the provincial practitioners' scope of activities.

The small job, to be done well, demands far more time proportionately, both in administrative work and in detail drawing, than the large new job, and we feel sure that the architects' reputation is so often sullied by inefficient handling of small jobs on account of the fact that they do not pay. This, we maintain, is wrong. They should, of course, be done no less efficiently than the large jobs, and in all cases "the labourer should be worthy of his hire" and reimbursed proportionately and fairly for whatever he does.

Permissions

Owing to the multiplicity of permissions now required, we find it necessary to keep a separate record for this purpose. Standard sheets have been devised containing a record of all bodies from whom there is any reasonable possibility of having to obtain permission. As the initial stages of the job proceed, the dates of applying for and receiving the respective permissions are duly recorded. This is done as routine work by the secretary, and any partner or assistant can then see at once whether all permissions have been asked for and obtained.

Recording Drawings

Our system of recording drawings is quite simple. Each drawing as it is made is given a systematic drawing number, and this number and the title and scale of the drawing are written on a standard size card-index filed in a cabinet. Each original drawing or negative has its own card, and on this same card the secretary records to whom every print is sent and the date of its dispatch.

Site Visits

Another important thing to check is a record of site visits to works in progress. We have found that, owing to pressure of work, it sometimes happens that if a small job is running smoothly it is apt to be forgotten, and it is essential for a system to be devised by which partners can see at

a glance not only the stage which a job has reached before building begins, but when it was last visited during course of erection. It is the opinion of this firm that all jobs, whether they have a clerk of works or not, should be visited at not greater than fortnightly intervals, and some much more frequently. As mentioned above, supervision is shared by partners and assistants. We look upon supervision as a very important factor, but at the same time as one which should normally be carried out by the assistant in charge as a direct follow-up from the drafting stage.

Staffing

The major difficulty of provincial practice is staffing. There is a far smaller choice of good assistants outside the Metropolitan area, and quite frequently it is essential to import an assistant from some distance away. This invariably means helping him to find housing accommodation, and in order to minimise this difficulty to some extent we have acquired a property in the city containing two maisonettes, which we let to such assistants and their families on a service-tenancy basis. The necessity of such importing and uprooting also means that, in order to be completely fair to both sides, we have to exercise the greatest discretion before increasing staff, as any such increase has to offer reasonable permanency. And as the practice has a large proportion of small jobs, a steady flow of work into the office has to be anticipated.

Travelling

In a provincial practice, travelling becomes a major problem, as there are many jobs within a radius of as much as 30 miles. Some of our assistants have their own cars, which they use for site visiting, and applications for essential petrol are made by the firm on their behalf and mileages as charged to clients are paid to them from petty cash. Generally speaking, the use of public transport in the provinces is impracticable, and if no car is available it is often found to be more economical to hire.

Speed

We all know that all the many sides of an architect's work are of equal importance, but we should like to say here that, in our opinion, one of the most important things is speed of production, compatible, of course, with considered work. Accuracy comes first, but speed a very close second. Clients do expect quick service, and after giving instructions they invariably expect immediate attention, and we have found it to be of paramount importance to carry out this practice in the office. The time-lags should, as far as is humanly possible, be confined to "approving bodies," and these inevitable periods of waiting time invariably give an opportunity in the office to get on quickly with another job.

Quantities

Whilst we think that it is undesirable for quantities to be prepared in an architect's office, we do think it to be of inestimable value if quantities are prepared by local firms of surveyors who have close liaison and are to some extent acquainted with the general standards expected by the architect. Further, the employment of a separate firm of professional advisers on a large project is of very great advantage to the building owner.

Design

The assistants in our office who are not yet qualified have collaborated with other assistants in the city in forming a live students' design atelier at which practising architects in the city take turns to set design programmes and to give criticisms. This is of enormous assistance both to the students and to the architects in widening experience in design and forming a good team spirit between all the practitioners and their staffs.

Conclusion

Finally, we believe that the success of architectural practice depends almost entirely upon a happy spirit in the office, a wise and friendly administration, and upon work for work's sake. As architects, we have a tremendous service to give to the community and a highly skilled and exacting task to perform, and only by careful integration of our increasingly complex duties can we hope to perform them with the degree of efficiency which must be maintained if our profession is to be worthy of its high calling.

CORRESPONDENCE

[Whilst we are glad to publish letters on professional and other matters of interest to our readers, it must be understood that we do not necessarily endorse the remarks of correspondents, who will oblige us if they will express their views as briefly as possible.]

"Supply of Architects": Statement of the A.B.T.

TO THE EDITOR OF *The Builder*.

SIR,—In your issue of January 13 you published a statement by the Association of Building Technicians which criticised in dictatorial tones the report of an Architects' Sub-Committee on the Supply of Architects. This drew forth a request from a reader that the A.B.T. should justify their critical attitude by publishing the numbers of registered architects in their ranks. The A.B.T. did not comply with this request. The reason for this reticence must have been readily apparent to your readers when, in your issue of February 17, I gave these figures and showed that of a total of 15,824 architects on the Architects' Register of the United Kingdom, only 554 are members of the A.B.T. (i.e., about 1/29th of the profession).

I also took that opportunity to ask the A.B.T. to publish a breakdown of those 554 in its ranks by stating how many are members of the R.I.B.A., giving those in each class. I am still awaiting these figures from the A.B.T.

Your readers may care to know the following facts regarding this Association, taken from their annual report.

Membership. — Total membership dropped by 370 during the last year, and the Sussex, War Damage Commission, Bath and Stoke Newington branches were closed. No new branches were founded.

Finance.—Income from subscriptions did not reach the budget estimate, but close attention to expenditure enabled the deficit for the year to be kept within reasonable proportions.

Foreign Relations.—The General Secretary and Treasurer, though invited to attend the (Communist-controlled) Trade Union Congress in Czechoslovakia in December, "was unable to accept because of our budget position." (In passing, is it to be assumed that the Council have made a practice in the past of sending representatives to Communist-controlled countries at the Association's expense?)

Meanwhile (while waiting for the "breakdown" of membership asked for in your issue of February 17), may I ask for some information as to the "Clerk of Works Diploma" bestowed by the A.B.T.? The first examination was held in April last, for which 35 candidates sat for the written exam., but from which 44 were "exempted" and took the oral only. Will the A.B.T. tell us how many (if any) failed? SIDNEY LOWETH.

"Westways," Bearsted, Kent.

Appointments Open: Lack of Courtesy by Advertisers?

TO THE EDITOR OF *The Builder*.

SIR,—Without prejudice and very respectfully, I would suggest that Mr. F. J. Meekins (who writes in your last issue) and any other employer who advertises for staff should disclose his identity when advertising. It would, I think, save them all much time, trouble and expense and help them considerably in getting the right staff for the job. Sufficient proof can be seen from your advertisement columns, where well-known firms use their names and not box numbers. They know that a man who values his ability would not follow the advertisement up, more particularly if he had been bitten once. PRO BONO PUBLICO.

Organising a Building Business

TO THE EDITOR OF *The Builder*.

SIR,—As the newly appointed secretary of a building contractor's and merchants' company, I should appreciate the advice of readers on:—

(a) Any up-to-date books dealing with costing and stock control (preferably integrated accounting).

(b) The best sources from which to obtain a library of working rules and general provisions, etc. F. D. F.

Rubber-surface Playground.

WIDESPREAD interest among all who are designing and building schools in the U.S.A. is being aroused by the news that at Rankin School, Akron, U.S.A., the playground was given a rubber surface.

The experimental installation, carried out by the Goodyear Tyre and Rubber Company, provided a ground-up-rubber top layer. This formed a resilient surface with no sharp edges to injure children who fell while playing.

Crushed stone was used as a foundation for the playground, and was sealed with a "hot-mix" asphalt. This base was covered with a half-inch of ground rubber and afterwards rolled to impregnate the rubber particles into the asphalt.

The rubber is used in place of the conventional crushed slag in the asphalt mixture. Already experimental highways with a rubber-asphalt surface are being laid in various parts of the U.S.A., but in the playground installation the top surface is entirely free from abrasive materials.

THE 1951 EXHIBITION

Mr. Casson's Paper to the R.I.B.A.

AN outline of some of the technical problems involved in the construction of the South Bank Exhibition for the Festival of Britain, 1951, was given by Mr. Hugh Casson, M.A., F.R.I.B.A., in a paper read to the Royal Institute of British Architects on Tuesday, March 7. The President, Mr. Michael Waterhouse, M.C., was in the chair.

Far from being a byway (said MR. CASSON), the art of the exhibition was a bold pioneering pathway hacked by adventurers through the jungle. For over 100 years now, the exhibition has been a laboratory of architecture, the nursing of new ideas, the testing ground of experiment. Looking back along the architectural road we had travelled since 1848, one found everywhere the scars left by the inquiring hatchets of the trail blazers—Paxton, Eiffel, Dutert, Gropius and Asplund. When the great landmarks of the last century's architectural development were charted by future historians, the Galerie des Machines, the Eiffel Tower, Stockholm in 1930 and Paris 1937 would rank high among them. "Missing, I suggest," said Mr. Casson, "will be Chicago, Earls Court and Wembley—the last designed, according to the official handbook 'to avoid the almost monotonous beauty of foreign exhibitions' and remembered to-day only by the Giant Racer and the Prince of Wales in butter."

How the Plan Grew.

After relating briefly how the idea of the Festival (first put forward by Mr. Gerald Barry, then Editor of the *News Chronicle*) came into being and developed, the lecturer proceeded to describe how the Design Group (consisting of James Holland, James Gardner, Misha Black, Ralph Tubbs and the lecturer himself) prepared the plan for the South Bank site. "To begin with we took four simple, basic, if arbitrary, decisions—(1) that the site should be linked visually, and if possible physically, with Trafalgar Square; (2) that the central dominating structure should be a saucer dome, which of course must be the largest dome in the world; (3) that since the theme was divided into two chapters, the railway bridge should act as a dividing agent; (4) that since the site was so small, no grand manner plan was conceivable. . . . Armed with these four weapons, we set upon the problem. We soon discovered, incidentally, that we were not the first to think of the link with Trafalgar-square. Here is a correspondent's suggestion to *The Builder* in 1857, 'planned,' he says, 'to relieve with facility the over degree of traffic clogging the streets, to clear the South Bank area, at present a hotbed of moral and physical disease.'

"Weapon No. 2, the Dome, was also double-edged. Was it practicable? The first experts consulted said No. Was there room for it? It seemed doubtful, because in a fit of exhibitionism we had decided it must be 365 ft. across, and we clung to that dimension with pathetic assurance. Weapons Nos. 3 and 4, however, looked like being of some assistance, and nervously the first lines went down on paper.

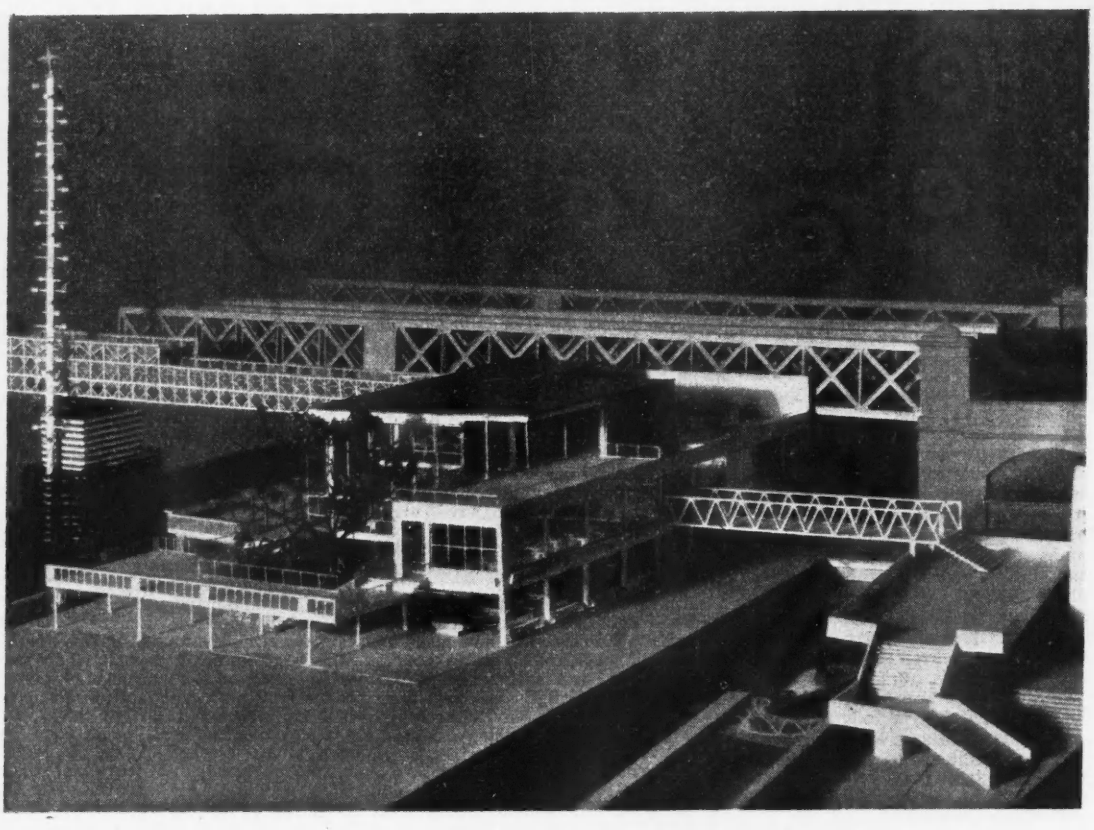
"The basic conception is—to use the current jargon—precinctual, the buildings being arranged in a series of courtyards of contrasting proportions, which open out one from another, and planned to achieve, by variety of silhouette and enclosure, as much visual surprise and excitement as is possible upon a constricted site."

The lecturer then described the detailed planning of the site which began in January, 1949, and continued (despite the cuts which will result in Wells Coates's Television Studio not being built) until July 26, when the work began on the site. "In November, the South Bank plans were published in the Press when, generally speaking, they met with a kindly, if puzzled reception. We received a broadside from Mr. Tom Braddock and in December an inaccurately aimed volley of what I must call gripe-shot from Professor Richardson, and the year closed with a strike. Contractors were soon at work again, however, and in January a good time (or should I say a good time-and-a-half?) was had by all.

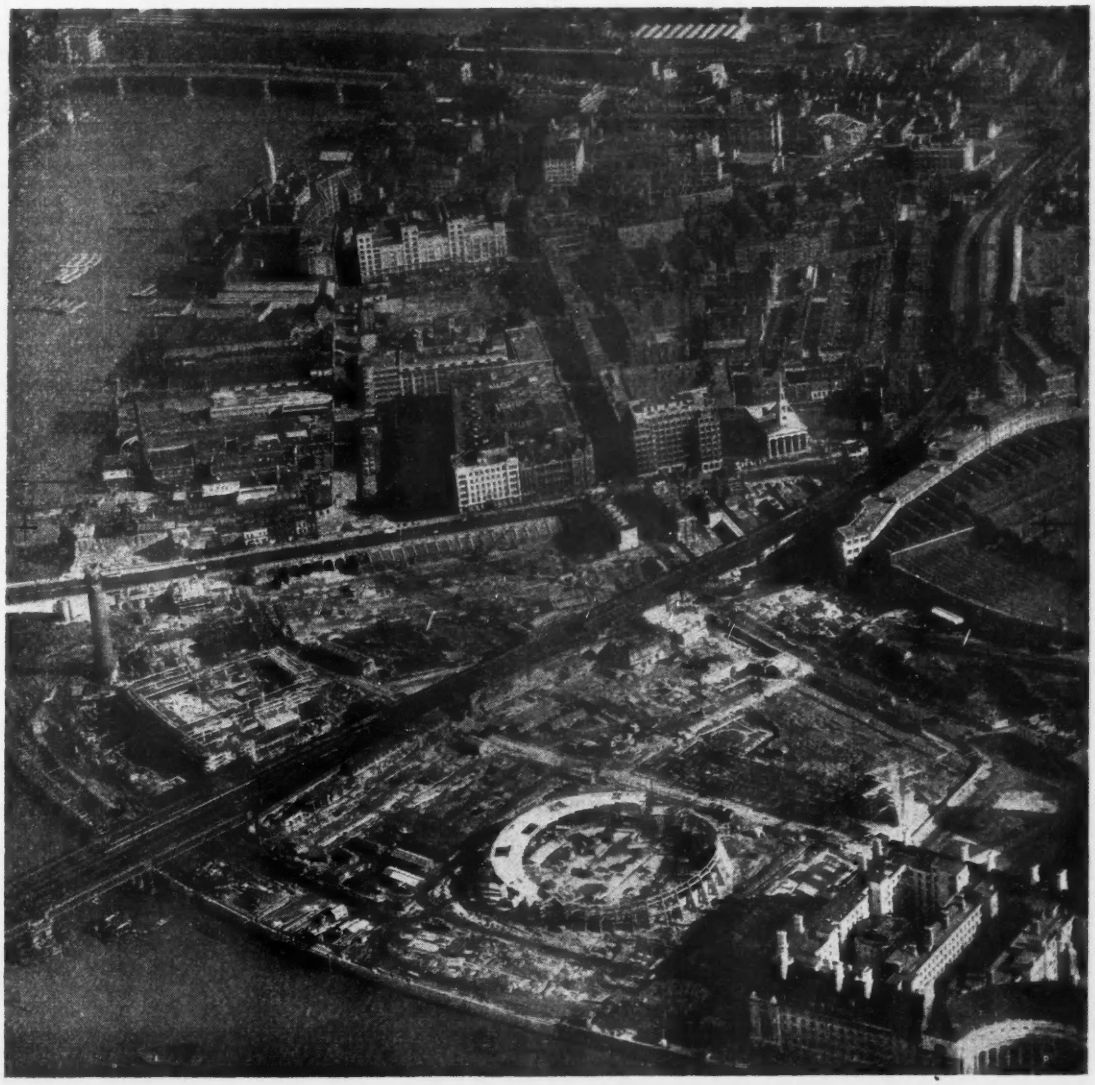
Some Exhibition Problems.

"Before taking you round the site, building by building, I would like to discuss a few of the problems which have so far only been touched upon.

"(1) *Crowd Control.*—This is no new problem for exhibition planners. There is no doubt, however, that despite the fact that the report of the Royal Commission on Population would seem to indicate that there is a growing shortage of general public, we will be faced in 1951 with a



THE SOUTH BANK EXHIBITION.—A model of the riverside restaurant and Press room beside Hungerford Bridge, designed by Misha Black, O.B.E., F.S.I.A., and Alexander Gibson, A.R.I.B.A., A.A.Dipl. Running parallel with the railway bridge may be seen the proposed Bailey bridge.



FESTIVAL OF BRITAIN EXHIBITION SITE.—An aerial view showing progress to date on the South Bank site. In the foreground may be seen the circular outline of the Dome of Discovery. The Shot Tower is on the extreme left, while to the right of it is the L.C.C. Concert Hall under construction.

major task. At the same time we should, I think, keep a sense of proportion in the matter. Attendances of from 50,000-75,000 a day or even higher are not unknown at Earls Court, Olympia, and even at the Zoo (which has incidentally an area only 3 acres larger than our site), and no great difficulty has been found to date in handling crowds of this size. On the other hand the central position of the South Bank undoubtedly complicates the problem very considerably, particularly at weekends and peak traffic periods. So far as the Exhibition site itself is concerned, the number of people who can be safely contained within it is reasonably controllable. With the help of experts we are working out the capacity of each building and assessing upon the best evidence available what is the maximum number of people who can be let in at any one time and who can still see the Exhibition in reasonable comfort. We are installing a mechanism, similar to that used in football stadiums, which simultaneously records the entry and exit of any person from the site, so that the Manager is continuously aware of the position and can give orders to close the gates when, in his opinion, the capacity attendance has been reached. This, of course, transfers the problem to the perimeter and approaches, and thus, strictly speaking, beyond the control and responsibility of the Festival Office. But here again we are working with the experts on possible solutions. So far as wheeled traffic is concerned, there is a plan showing the improvements which have been worked out with the help of the Ministry of Transport, and which are designed to improve the flow of traffic in this area. A further contribution will be made by the new layout of Parliament-square. So far as pedestrians are concerned, we are discussing with the Police, London Transport and other authorities methods for ensuring that, when the Exhibition is full, the public is diverted to other centres of attraction. This involves, of course, rerouting of river boats, special notices at all Tube stations, and similar devices. We are, of course, well aware of the seriousness of the whole problem, which is aggravated by the fact that no estimate of attendance can be more than guesswork, but are confident that the measures we are taking with the help of our technical advisers are the best that can be devised for the purpose.

"(2) *Safety Precautions.*—Related to the problem of crowd control is, of course, that of safety precautions generally within the Exhibition. The Festival Office is responsible for seeing that all its projects are planned, erected, maintained and managed in such a way that the safety of the public is ensured. Under the Festival of Britain Act we are exempt from L.C.C. bye-laws and regulations under the London Building Acts, or such of them as apply, but the Government has rightly insisted that the standards of safety throughout the Exhibition should in no single case be inferior to those which are legally applicable to normal buildings. In some cases, in fact, they will be more stringent. The number of exits provided, width of gangways, etc., are carefully studied on all drawings by our Safety Precautions Officer and questions of dispute are referred to a tribunal under the chairmanship of Mr. Howard Lobb. We have been fortunate, too, in obtaining the constant advice of the expert technical officers of the L.C.C. And the whole layout has been planned

to ensure adequate open circulation between structures and to provide for rapid dispersal from individual buildings and easy approach for fire appliances. A comprehensive alarm system will be installed, under the guidance of Police and Fire Brigade authorities, and ample patrol staff will be on duty, in addition to the Fire and Police Stations on the site.

"(3) *Services.*—The Exhibition site already contains a network of services, most of which were due for extension and elaboration under the long-term plans for redevelopment of this area. All planning of roads, gas, water and electricity services, therefore, has been carefully co-ordinated with the L.C.C., so that as much work as possible will have long-term value after the Exhibition has been dismantled. Electrical services are of particular complexity on this site, including such special demands as special illuminations, public address systems and B.B.C. sound and television services, and to assist in the layout of these and in the siting of sub-stations we have been working with our consultants, Messrs. McLellan and Partners. Mr. Wilson and his colleagues at the Ministry of Works have also rendered valuable assistance in the design and costing of all decorative water fountains and pumping machinery.

"(4) *Restaurants.*—Some 14 restaurants and cafés, ranging from main meal service types to cafeterias and snack-bars, will be included in the Exhibition grounds, many of them sited along the river-front and taking full advantage of views of London and the Thames. There will also be a mobile tea service and numerous kiosks, and one of the two large restaurants in the L.C.C. Concert Hall will be open to Exhibition visitors. Here is something we hope to do better than in 1851. For the Crystal Palace, remember, was dry, and the record of 1,000 gallons of pickles eaten by its visitors does not speak well of the catering.

"(5) *Lavatories.*—It has been difficult to find proper statistics on this matter, but all authorities seem to agree that there are never enough lavatories and that the proportion of women's to men's is, because of children, nearly always under-estimated. Since lavatories are amongst the most expensive of structures to build, it has been tempting at times to economise upon these rather than upon exhibition and display. Our advisers, however, have been adamant, and we hope supply will equal demand."

Mr. Casson concluded the lecture by "taking the audience quickly round the site" by means of a brief description of the various parts, illustrated by slides, and ended by saying that he hoped the tour would confirm his own belief that the South Bank Exhibition would be an exciting architectural experience.

A vote of thanks to Mr. Casson was proposed by SIR PATRICK ABERCROMBIE and seconded by MR. J. MURRAY EASTON.

FESTIVAL OF BRITAIN APPOINTMENT

MR. JACK HOWE, A.R.I.B.A., M.S.I.A., chartered architect and industrial designer, has been appointed co-ordinating designer for street decoration for the Festival of Britain, 1951. Mr. Howe will work under the direction of the Festival Design Group and in close association with the Ministry of Works, local authorities, British Railways and other bodies concerned with this problem.

Mr. Howe, who is 39, is a member of the R.I.B.A. Exhibitions Committee, the R.I.B.A. Architectural Science Board, the British Standards Co-ordinating Committee and the S.I.A. Industrial Design Executive. He is at present Architectural Consultant to the London County Council (Schools), the Cambridgeshire Educational Committee (in the preparation of the architectural programme for the new Cambridgeshire Technical College and School of Design).

NEW TOWNS: PLANNING PROCEDURE SIMPLIFIED

PROCEDURE for obtaining planning permission for building and other works in the new towns has been simplified by an Order made by the Minister of Town and Country Planning. It comes into force on March 1 next. At present the New Towns Development Corporations are subject to ordinary planning law, and must obtain the permission of the local planning authority before they may carry out any development in the new towns. In addition, under the provisions of the New Towns Act, they have to submit to the Minister of Town and Country Planning all their proposals for development, and before giving his approval the Minister must consult the local planning authority.

When the new Order comes into force, Development Corporations will continue to submit their proposals to the Minister, and the Minister will still consult the local planning authority. However, once he has approved the proposals, any development carried out either by the Corporations themselves, or by a person to whom they have disposed of the land, will be classified as "permitted development," and the second reference to the local planning authority will no longer be necessary. The Order is made under powers given to the Minister by the New Towns Act of 1946. It is known as the Town and Country Planning (New Towns Special Development) Order, 1950, and is published by H.M.S.O. as S.I. No. 152, price 1d.

COMPETITION NEWS

Rural and Urban Community Centres

THE ASSESSORS have now made known their awards in the competitions for rural and urban community centres organised under the auspices of the Incorporated Association of Architects and Surveyors. The awards are as follows:—

URBAN COMMUNITY CENTRE. First (£150): J. K. Chalton, A.R.I.B.A., and W. J. Thomas, 174, Orphanage-road, Erdington, Birmingham, 24. Second (£100): Divided between F. W. B. Charles, B.Arch., A.R.I.B.A., 3, Great Stuart-street, Edinburgh, 3, and Margaret E. Rix, A.R.I.B.A., and Norman Rix, Hayes-grove, Prestons-road, Hayes, Kent.

RURAL COMMUNITY CENTRE. First (£100): Devereux and Davies, A. and F.R.I.B.A., 3, Gower-street, W.C.1. Second (£50): A. Clayton, 23, Cannon-street, Sherwood, Nottingham. Hon. Mentions: H. W. Pickstone, A.R.I.B.A., "Fairholme," Freshfield-road, Formby, Lancs, and G. F. Taylor, 1, The Gable House, 12, Lawrie-park-avenue, S.E.26.

THE DOME OF DISCOVERY, SOUTH BANK EXHIBITION. A progress view of the Dome, illustrated details of which were given in our last issue.

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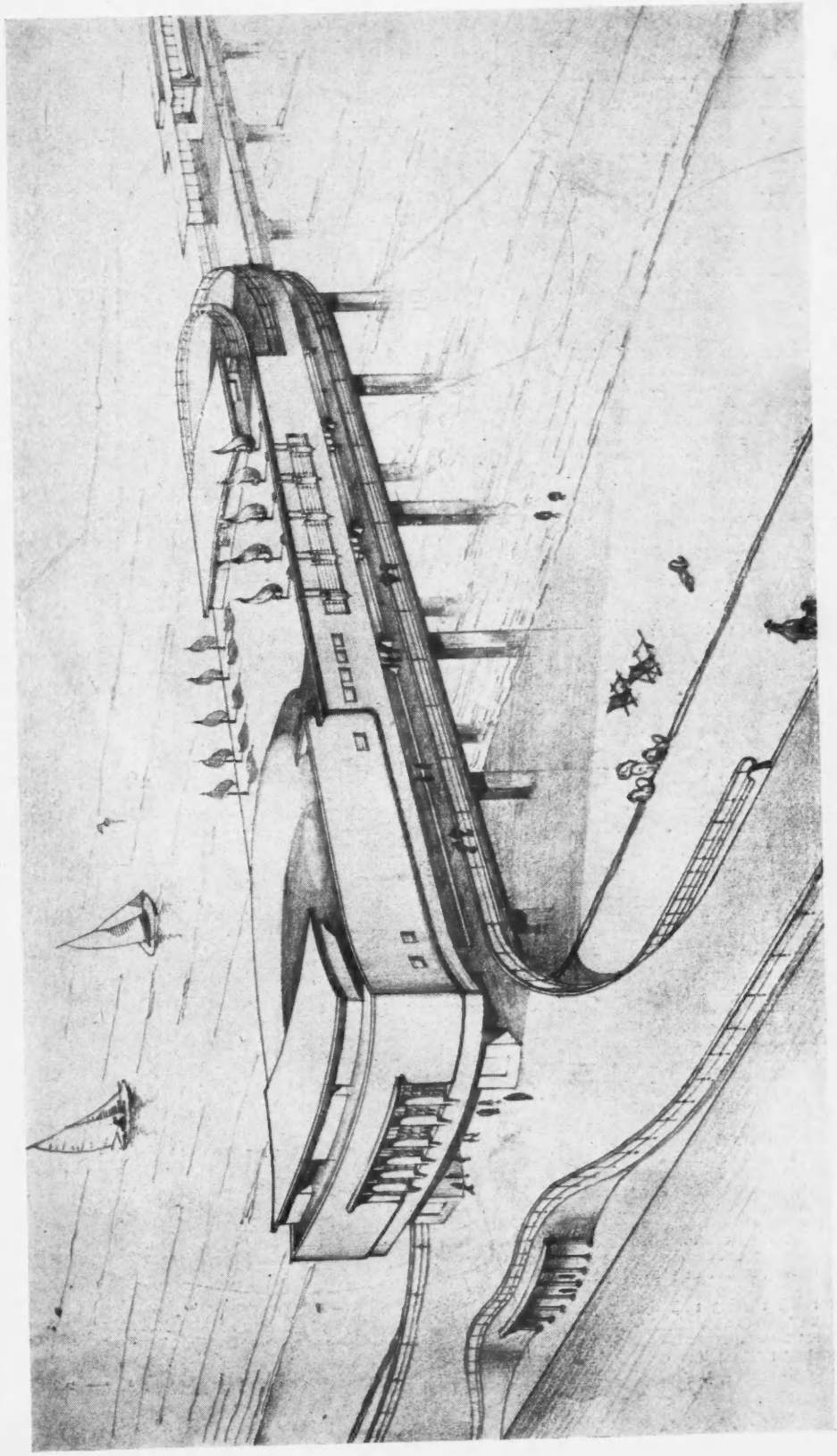


PROPOSED NEW PIER, PAIGNTON, DEVON. W. NORMAN OLIVER, L.R.I.B.A. (LAMBERT AND OLIVER), ARCHITECT

PROPOSED NEW PIER AT PAIGNTON, DEVON

THE new pier will be constructed in the position in which the existing pier stands, and will ultimately replace it in entirety. There will be no change in orientation, the main access to the new structure being in the same position as the existing pier.

HISTORY: The existing pier was constructed under the Paignton Pier Act of 1874, and was originally supported on 88 piles, to which were fixed cast-iron columns supporting the deck. The existing pier has an entrance with an average width of about 60 ft., while the width of the main deck is approximately 18 ft. 6 in. and extends seawards for a distance of 317 ft., at which point it is widened out to 29 ft. for a further length of 230 ft. and extends to the pier head, which is 172 ft. long and 56 ft. wide. The pier is supported on a series of trestles at about 30 ft. centres.

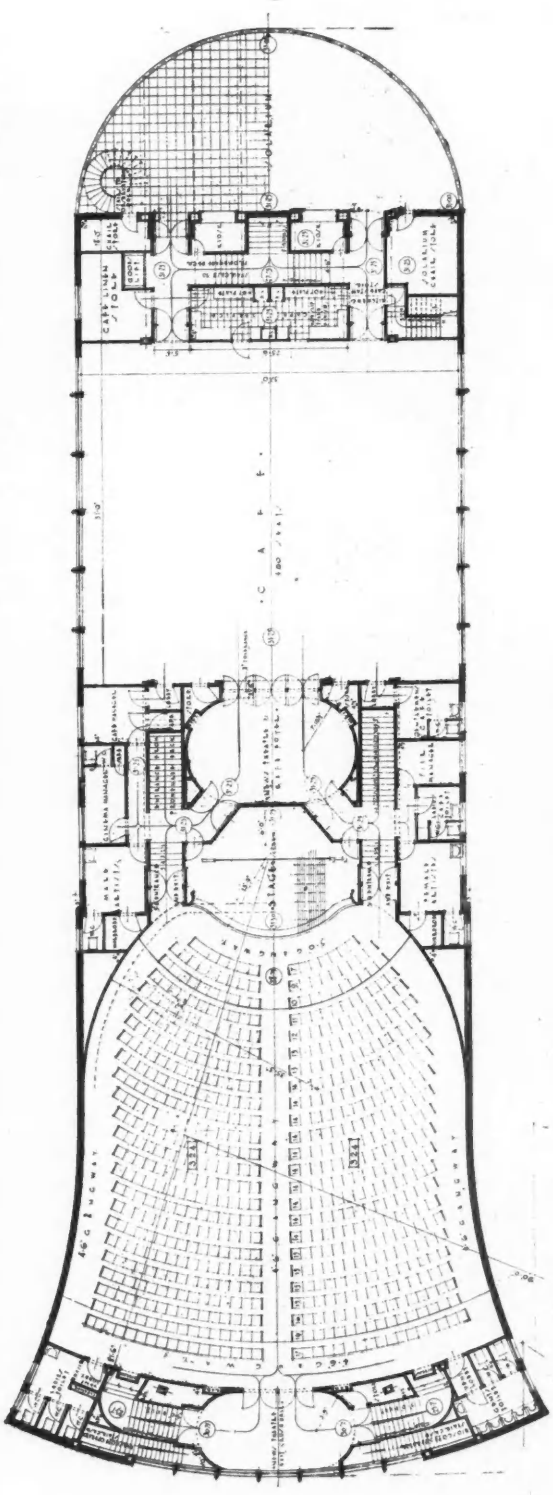
The pier was requisitioned by the War Department in July, 1940, and de-requisitioned in June, 1944. Owing to the derelict condition into which the existing structure has fallen, it has been decided to erect a new pier in its stead, a modern design embodying as far as possible the amenities which are called for and expected for a considerable time to come.

DEMOLITION: In the first instance, it is intended to pull down the existing structure, which comprises baulk timber with a superstructure of timber framing, covered in ply sheeting or corrugated iron. The work entails the lifting of the whole of the existing piles and cast-iron columns, and this in itself constitutes quite a major operation.

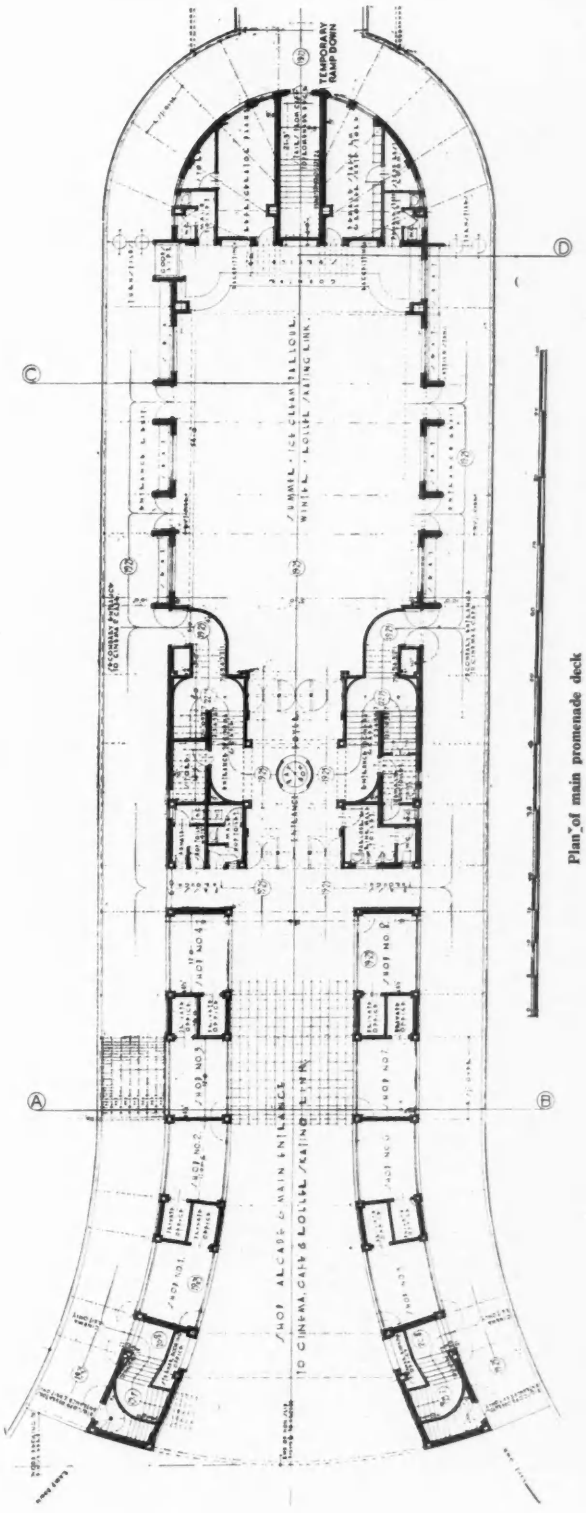
From the point of dismantling, seawards, some form of access must be provided to the existing deck and buildings thereon to enable the remainder of the pier to be in use during the construction of the foreshore portion, and this will be effected by a continuous ramp from the promenade to the deck.

NEW BUILDING: The present building forms a portion of the whole projected scheme and comprises, at Esplanade level, a direct entrance beneath the pier to tea and soft drinks kiosks. The pier promenade deck proper will be reached by reinforced concrete ramps, raising the deck some 9 ft. above the Esplanade, and so ensuring that the existing promenade adjoining the sea wall can be maintained. The superstructure will be carried on prestressed concrete piles with reinforced concrete caps, piers and beams as indicated on the section.

ACCOMMODATION: The foreshore end of the scheme provides for eight lock-up shops with small private offices adjoining, and toilet accommodation, and two steamship booking offices, all accommodated in a main entrance arcade which also serves the purpose of providing shelter for any queues forming for the cinema, café or roller skating rink during peak periods, and serves as a main entrance to the ice cream summer parlour and winter roller skating rink on the main deck; by means of a dispersal foyer, it also



Plan of upper deck



Plan of main promenade deck

serves as the main entrance to the news theatre and café and café solarium.

Surrounding the shops and the ice cream parlour are two promenade decks which are completely free for the use of the public, with limited free seating accommodation but, beyond their extremity, turnstiles are provided for admission to the seaward end of the pier.

CAFE DECK: The floor above the main promenade deck comprises a news theatre, seating approximately 650 persons, with a small stage for the use of variety turns of short duration only; while changing rooms have been provided for the artists, it in no way comprises a stage proper, and is not, therefore, fitted with flies, grid, etc. The news theatre is provided with a twin bioscope projection booth complete with rewind room and stand-by light plant room adjoining, the latter housing the necessary ventilation equipment for theatre, café and roller skating rink. Also situated on this floor is a café with seating accommodation for 400 people which can very quickly be converted into a small dance hall. From the café, direct access is provided to a solarium which can be served with soft drinks, teas, etc., from the café service.

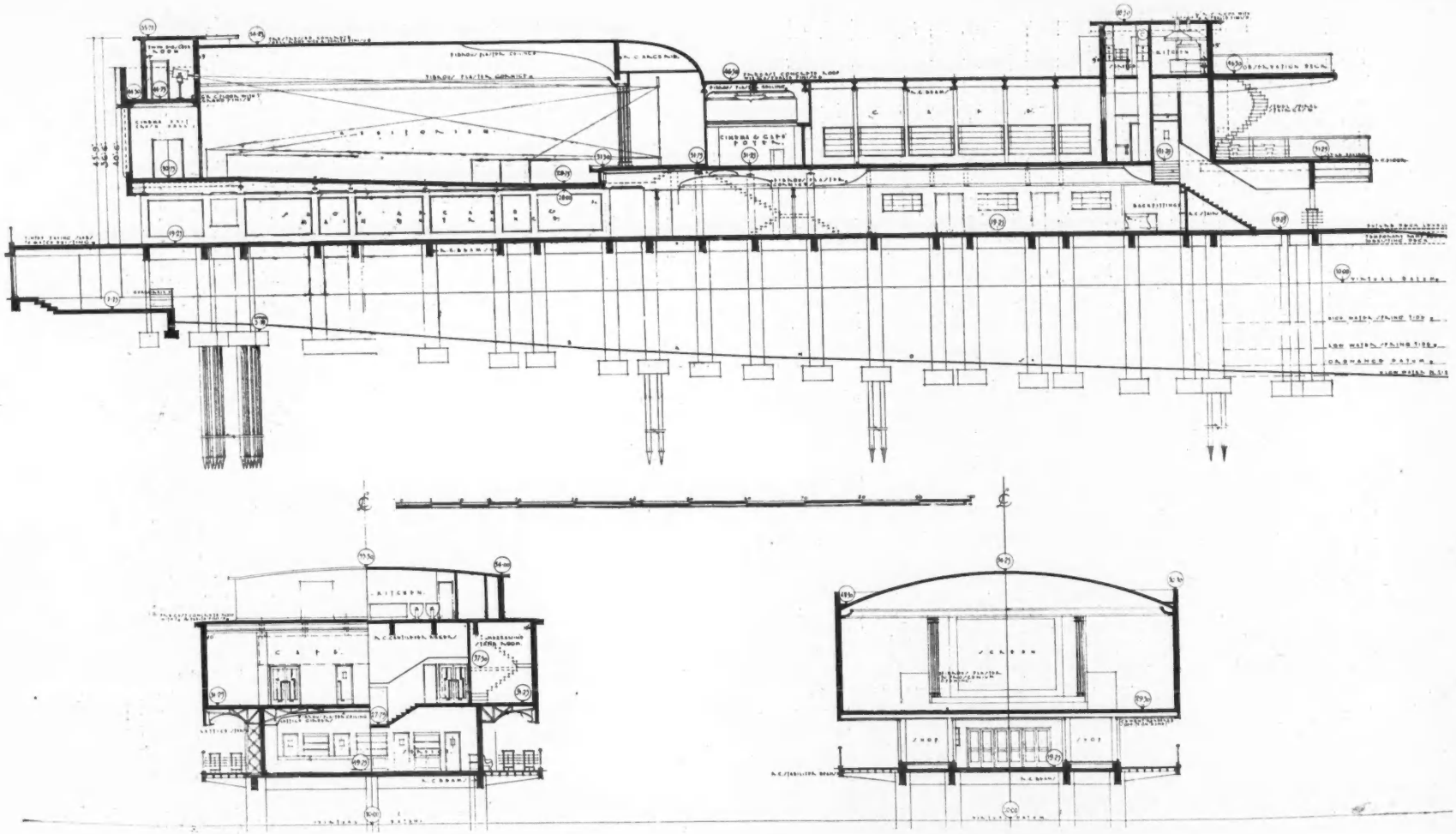
Above the café are disposed the kitchens which serve it by means of a down service. The kitchens were placed at roof level intentionally, so that the odours which are natural to these premises would not be noticed by the customers. At the kitchen level is also provided an observation deck, reached by a steel spiral staircase from the solarium. The café is cut off from the news theatre by a dual-purpose foyer, which has the advantage of acting as a crush hall for both and provides a useful meeting-place for clientele. Both the news theatre and the café are provided with adequate exits and toilet accommodation.

CONSTRUCTION: *Walls.* It is intended that the construction of the exernal walls shall normally be formed with "Shockbeton" external cladding, with 1½-in. maximum internal cladding, both forming shuttering for vibrated conerete infilling. Internally, the walls will be generally of 4-in. clayblock construction keyed both sides for plastering.

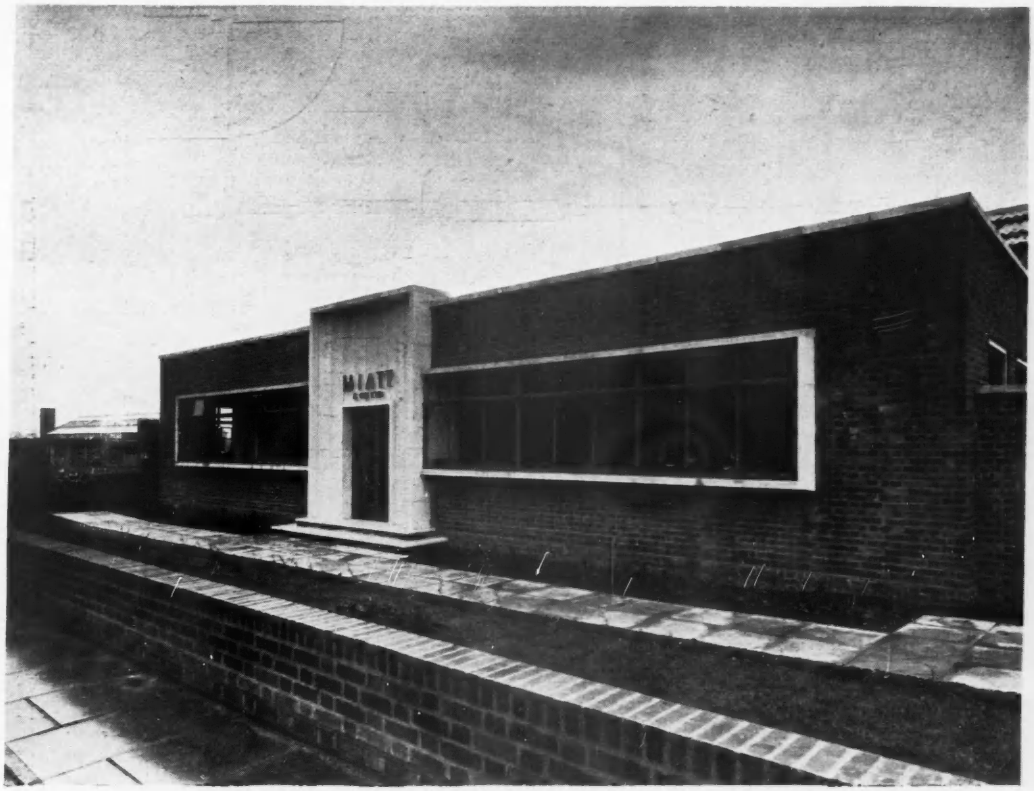
Roofs. The roofs will either be *in situ* concrete, precast concrete on beams or prestressed shell concrete as indicated on the section. *Floors.* Floors generally will be of precast concrete with inset dovetailed fillets, creosoted, and hardwood surfacing with overall carpeting laid to stairs, foyers, news theatre and café. Floors to lavatories will generally be in non-slip tile, terrazzo or composition.

SCOPE OF COMPLETE SCHEME: It is intended eventually to provide at the seaward end of the pier a proper theatre capable of handling plays, etc., with complete stage and all necessary ancillaries, an amusement arcade, a yacht club, a dance hall capable of accommodating 2,000 and anglers' club. Further, it is intended to lay down a floating pontoon to enable pleasure steamers to pick up and put down passengers at any state of the tide.

W. NORMAN OLIVER, L.R.I.B.A., ARCHITECT



PROPOSED NEW PIER, PAIGNTON, DEVON. Longitudinal and cross sections.



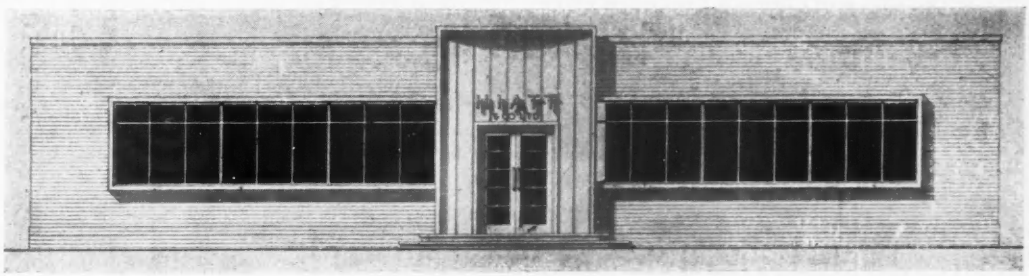
The main front.

FACTORY, BALTIMORE ROAD, GREAT BARR, BIRMINGHAM

LEONARD J. MULTON, F.R.I.B.A., ARCHITECT

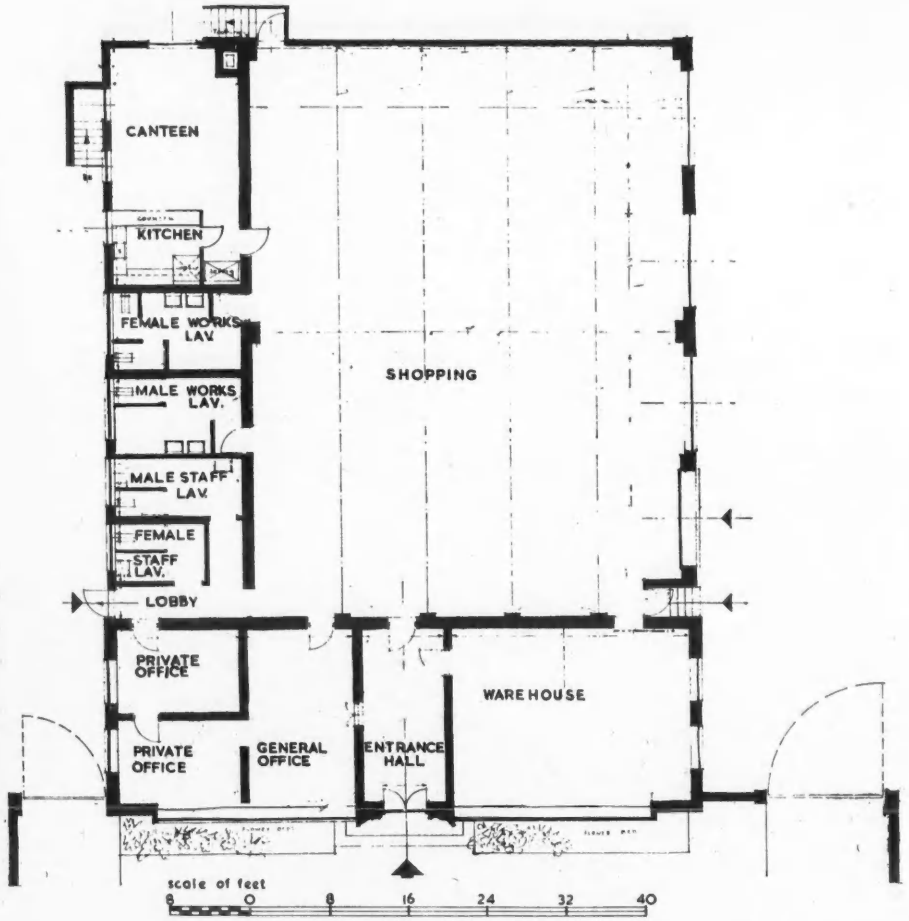
THIS factory for Messrs. Hiatt and Co., Ltd., in the Baltimore-road, Great Barr, Birmingham, was built on sloping ground liable to flooding, and consequently had to be considerably raised above ground level at the rear. The front block contains administrative offices and stores, and is built in London Brick Co.'s facings with precast stone dressings to windows. The curved and fluted stonework of the entrance is also precast stone. York stone is used for the steps. Steel-framed north-light shopping space at the rear is enclosed by brick walls on all sides, the roof being sheeted in corrugated asbestos. The factory is designed to enable additional bays to be added as the need arises. The workshop floor consists of Smith's fireproof floors suspended on sleeper walls. On one side of the shopping are placed the lavatories and canteen.

The general contractors were Messrs. William Sapcote and Sons, Birmingham. Sub-contractors and suppliers are: metal windows and roof glazing, Henry Hope and Sons; heating, Norris Warming Co.; fireproof floors, Parkfield Concrete Products; electrical work, Electrical Power Installation (Birmingham), Ltd.; ironmongery, K. S. Neale; wood block floorings, Hollis Bros., Ltd.; cast stonework, Empire Stone Co., Ltd.; and sanitary goods, W. E. Farrar, Ltd. The architect was Mr. Leonard J. Multon, F.R.I.B.A.



'Detail of main elevation.

Detail of entrance to office block.



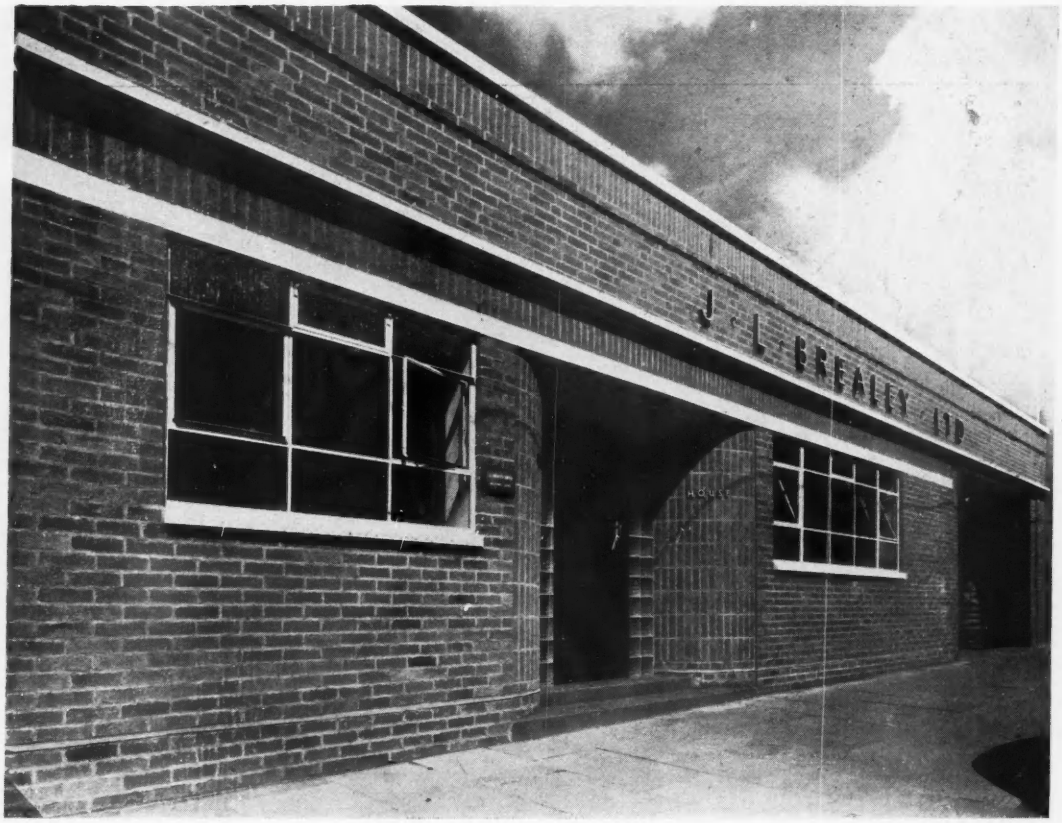
The plan.

A FACTORY AT BALTIMORE ROAD, GREAT BARR, BIRMINGHAM. LEONARD J. MULTON, F.R.I.B.A., ARCHITECT

Detail of main entrance.

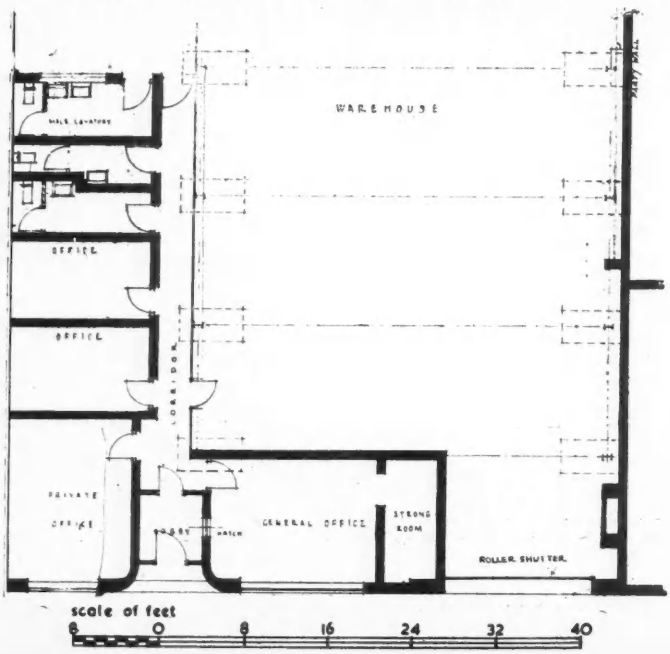
FACTORY AT BRADFORD STREET, BIRMINGHAM

LEONARD J. MULTON, F.R.I.B.A., ARCHITECT



Elevation to the office block.

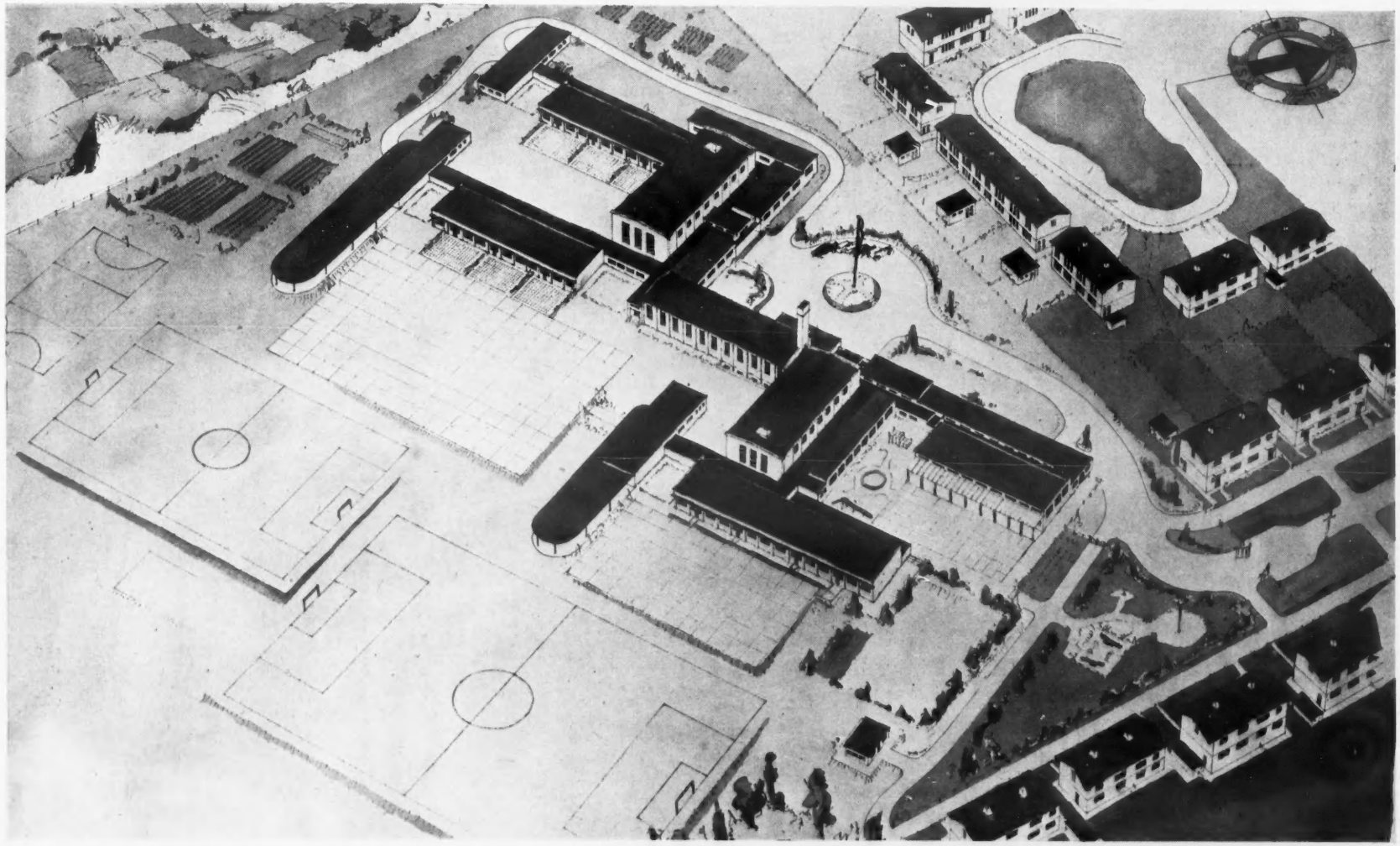
THE photographs reproduced in these pages illustrate the façade to a metal warehouse, for Messrs. J. L. Brealey, Ltd., carried out in sand-faced, hand-made bricks with precast stone dressings. The surround of the office entrance is composed of glass bricks flanked by curved walls laid as soldier courses without bond. The steps are in adamantine tiles, while a steel roller shutter encloses the works entrance. The general contractors were Messrs. Arthur Ashton and Sons, of Trent-street, Birmingham. Sub-contractors and suppliers were : Steelwork, Cox and Danks, Ltd.; facing bricks, Proctor and Lavender ; precast stone, Empire Stone Co., Ltd.; roller shutter, Mather and Platt, Ltd.; and windows, John Gibbs, Ltd.



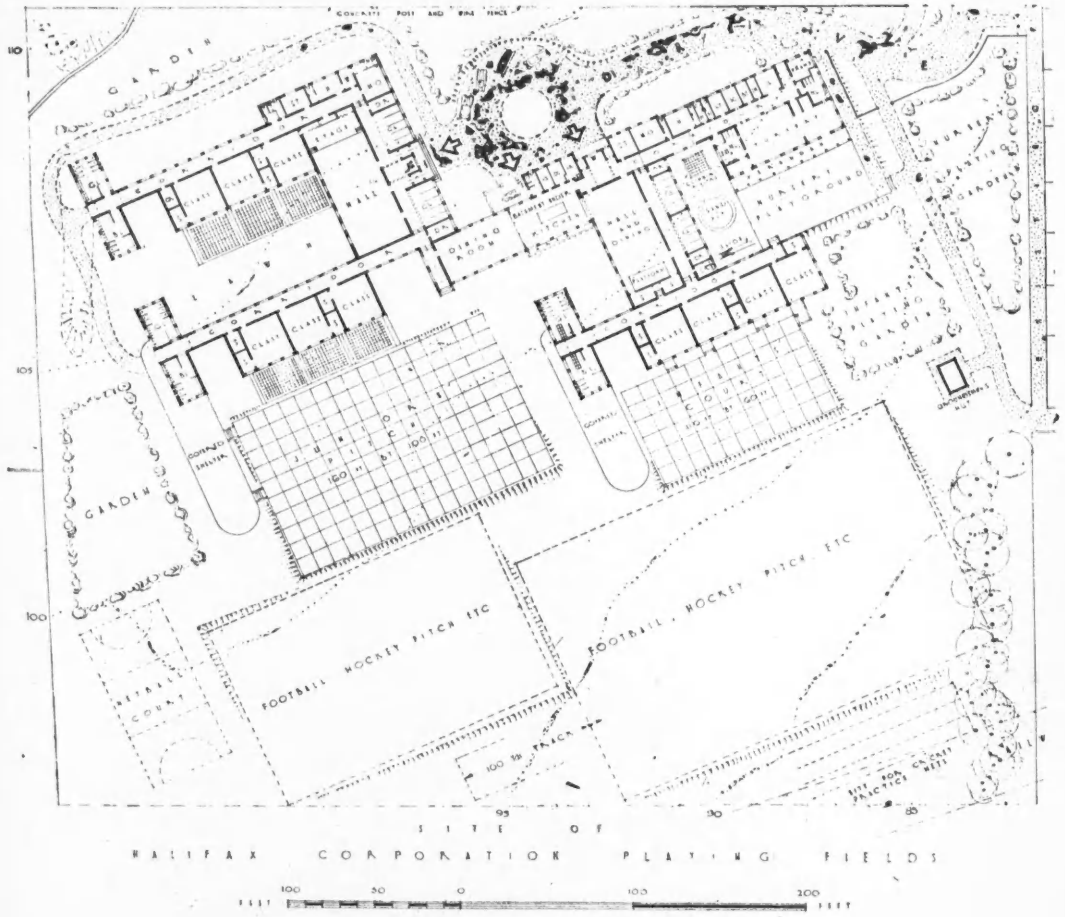
Plan of office block with part plan of warehouse.

FACTORY, BRADFORD STREET, BIRMINGHAM

LEONARD J. MULTON, F.R.I.B.A., ARCHITECT



ST. MALACHY'S PROPOSED R.C. SCHOOLS, OVENDEN, HALIFAX, YORKS. J. H. LANGTRY-LANGTON, ARCHITECT



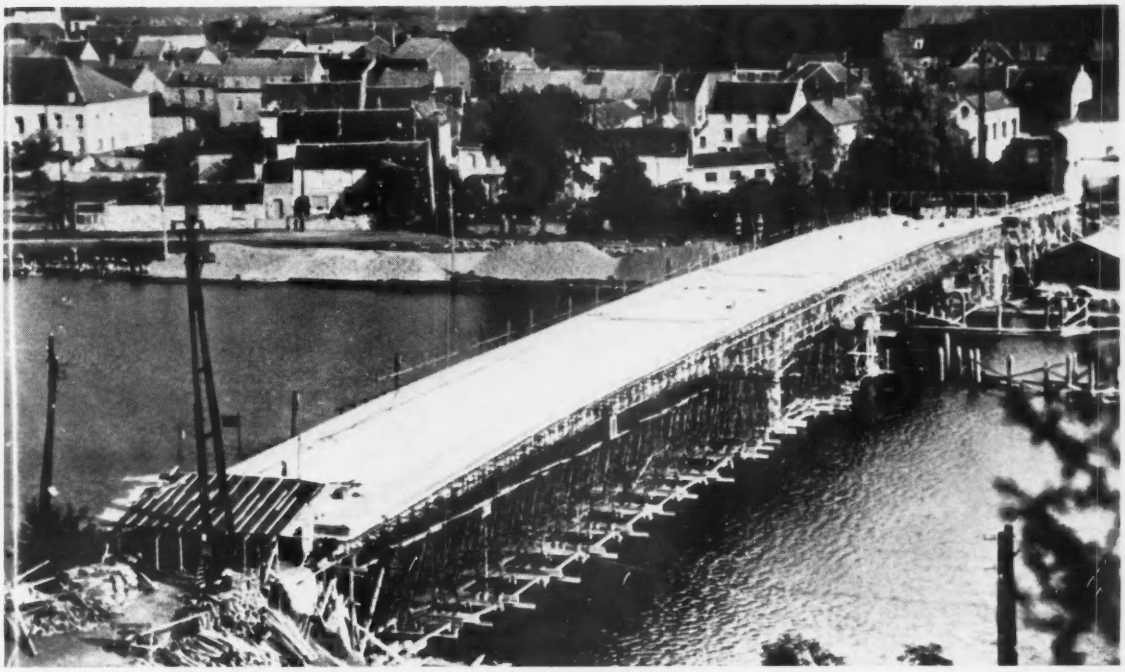
THE ST. MALACHY'S PROPOSED R.C. SCHOOLS, COUSIN-LANE, OVENDEN, HALIFAX, YORKS.

J. H. LANGTRY-LANGTON, ARCHITECT

THE school illustrated will be for 240 juniors, 160 infants and one nursery class. Some of the considerations which have influenced the planning arrangements are as follows: The contours being diagonal, it has been found advantageous to compromise between building parallel to the boundary and the direction of the contours. This gives an advantage in levels, and enables the dining-room, kitchen, infants' hall and nursery to be on the same floor level for meals service and the use of a trolley between kitchen and nursery. It will also simplify the central heating system and the construction of playgrounds and playing fields. The classrooms will face slightly east of south, which is considered ideal. The nursery, infants' and junior schools are placed in that order from the entrance, each forming a separate unit, with attached playground or garden space.

It has been endeavoured (1) to place the hall and cloaks, etc., together to form a convenient unit for social purposes; (2) to have the lavatories convenient for both playground and classrooms; (3) to place all offices together and convenient to the principal entrance; (4) to place the service road away from classrooms and convenient for unloading supplies to the kitchen or heating chamber, and for reversing, etc. Most of the plan is developed on 8 ft. 3 in. units for prefabricated units in order that it may be built in such instalments as may be required.

The construction of the building is orthodox, being steel-framed based on a grid modulus of 8 ft. 3 in. There are concrete floors throughout, with floor finishes according to the requirements of the room. Walls are of 11 in. cavity brickwork, and roofs are of insulating slabs on reinforced concrete lintols, screeded and covered with built-up bitumen-felt covering. Heating will be by a low-pressure hot-water system.



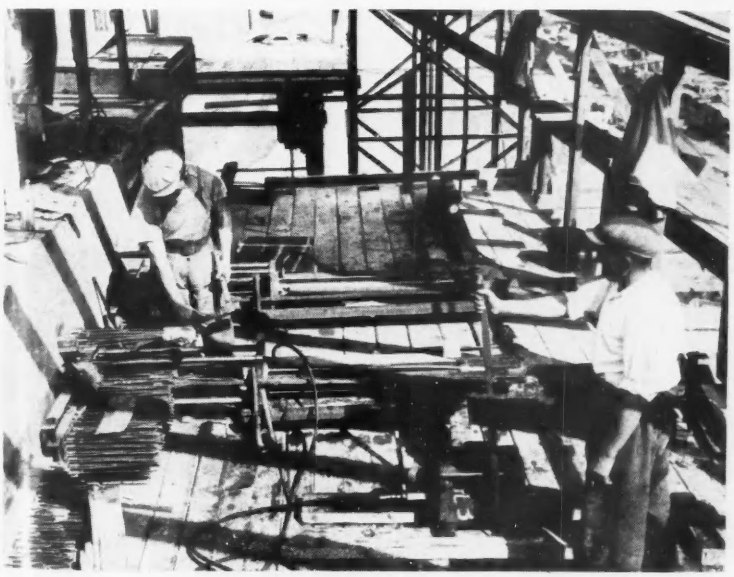
A general view of Sclayn road bridge, Namur, after the completion of concreting of the main structure.

A CONTINUOUS BRIDGE IN PRESTRESSED CONCRETE

An Example from Belgium

ONE of the first continuous prestressed bridges of major dimensions has recently been completed at Sclayn, near Namur, Belgium, and adds yet another graceful feature to the valley of the Meuse across which it spans. The structure has been constructed according to the principles recommended by Professor Magnel and employs the Magnel-Blaton sandwich plate and cable.

The suspended approach at one end is of 52 ft. 6 in. span and is made up of 16 precast prestressed beams, each containing two cables of 24 7-mm. wires. After placing, the beams were cross prestressed by 10 transverse cables each of 8 7-mm. diameter wires. The main spans, which are each 206 ft. long, are continuous over a central pier. They carry a roadway 23 ft. wide and two cantilever footpaths each 5 ft. 5 in. wide. The overall width of the bridge is 33 ft. 9 in.



Prestressing of 7-mm. cables for Sclayn road bridge, using hand-operated Magnel-Blaton hydraulic jacks.

The Cross-Section.

The cross-section of the main span is that of a hollow box divided by two longitudinal diaphragm walls. Transverse diaphragms are also provided at third points in each span. The leading dimensions of the longitudinal and transverse sections are clearly shown on the accompanying drawings. It will be seen that the transverse diaphragms are provided with openings for inspection purposes and for the passage of cables. The continuous girder spans are supported at the centre pier by a "Freyssinet" type hinge, and at the shore abutments reinforced concrete rocker supports are provided.

Prestressing is by means of 36 cables of 48 7-mm. wires each; these are evenly distributed across the transverse section, 12 cables being placed in each compartment. The cables are continuous over the two spans and are 416 ft. long between anchorage faces. They change direction slightly at the centre support, but this deflection is very small and of little account. The anchorages themselves are Magnel-Blaton sandwich plates with distribution plates of a special design developed for this particular contract.

The tensioning of the main cables followed the normal technique for this method: stressing in pairs. Owing to the exceptional lengths of cable, however, two jacks were used—one at each end. The majority of the stressing was carried out with jacks actuated by mechanically-operated hydraulic pumps, but mechanical pumps equipped with relief valves to control the maximum pressures at the required extension were introduced at one stage of the operations. The two stressing teams were connected by field

telephone, but no difficulties were experienced in each team selecting identical wires for stressing, as the formation and shape of the Magnel-Blaton cable rendered selection a simple matter.

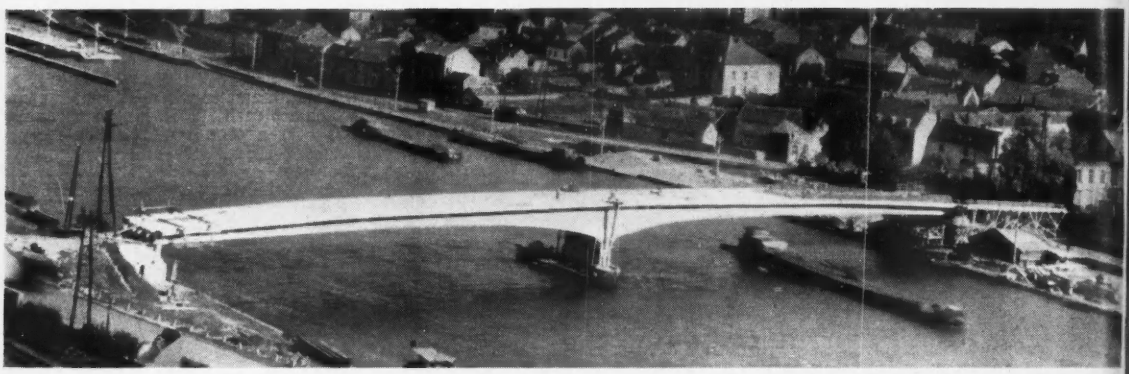
The contractor's programme was greatly facilitated by the fact that piers and abutments were already in existence, and had merely to be repaired and levelled to suit the new requirements. The driving of the temporary piles and the two clusters to form the navigable span presented no difficulties. The latter was provided by Grey-section R.S.J.s, which supported the soffit formwork. Elsewhere formwork was supported upon steel scaffolding erected on a platform upon the temporary piling. These arrangements proved satisfactory, but the beams forming the navigable span deflected excessively and caused a crack in the upper surface of the unstressed concrete structure near the temporary piers. The crack closed up, however, and disappeared entirely by the time all the prestressing had been completed.

The Concreting Sequence.

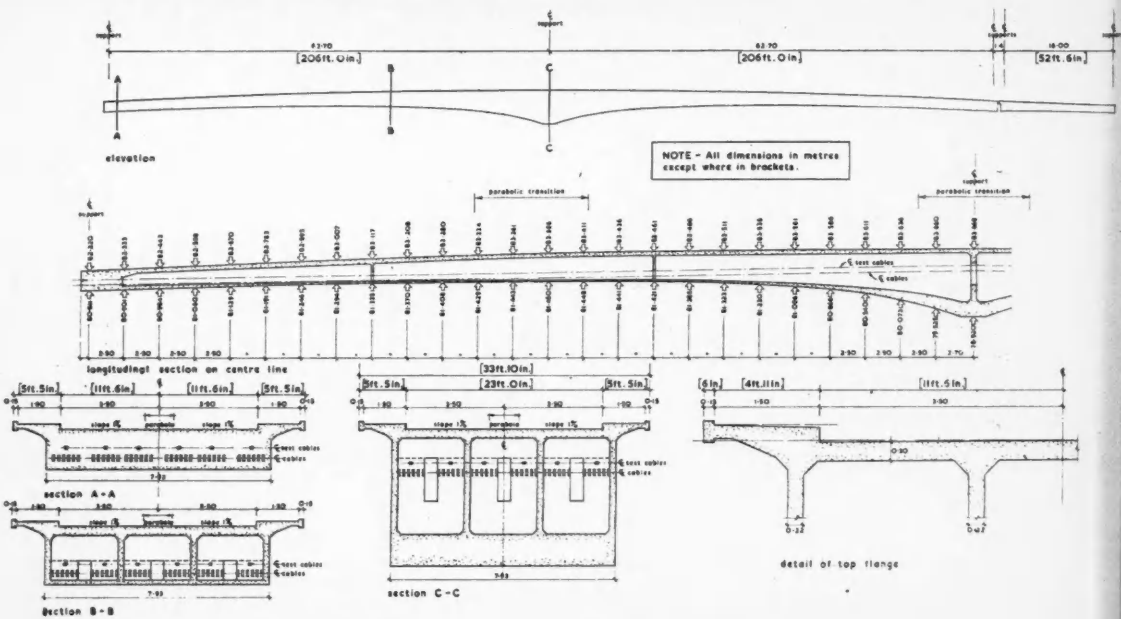
The concreting sequence was as follows:

1. Support, including centre hinge connections and articulated shore support.
2. Soffit (intrados) slab, commen-

Sclayn road bridge, Namur.—View showing longitudinal stiffener walls and 7-mm. wire prestressing cables laid in position ready for stressing after completion of road slabs. The small corbels on the sides of the diaphragm are to support the soffit shutters of the road slab.



Sclayn road bridge from the east bank, showing the completed main spans. *Below:* **Constructional details.**



1950

7-mm.
f road
soffit

cing from the abutments and working to the centre of each span in suitable bays.

3. Longitudinal walls and end blocks of beams. Here the cables were inserted.

4. Transverse diaphragms.

5. Road slab and footpaths, using the same sequence as for 2.

The prestressing of the 7-mm. cables followed as soon as tests showed the concrete to be satisfactory, between 90 and 110 wires being completely stressed in a day.

The bridge has been designed and constructed to fulfil requirements of the Belgian Ponts et Chaussées, and carries their standard road loading which specifies a rolling load of 32 tons in addition to a uniformly distributed load of 110 lb. per sq. ft. The maximum compression in the concrete is 2,160 lb. per sq. in., and tensile stresses are restricted to 110 lb. per sq. in.

Some twenty-three projects were submitted for this scheme by twelve contractors, and the successful prestressed concrete design showed considerable savings in first cost over steel or reinforced concrete construction — approximately 8 and 20 per cent. respectively. The approximate quantities of material were:

Concrete ..... 1,215 cu. yd.
M.S. reinforcement ... 42 tons.
H.T. wire (7-mm.) ... ...65 tons.

The steel-concrete ratio is 1 to 11.3 —a low figure for such a structure.

The works were undertaken by the Entreprises Blaton-Aubert, the Consulting Engineer being Alexandre Birguer, of Brussels, and Professor Magnel, of Ghent University, was responsible for preliminary technical investigations and supervision of the final design.

OBITUARY

Sidney I. Ladds, A.R.I.B.A.

We regret to record the death on March 5, at Huntingdon, of Mr. Sidney I. Ladds, A.R.I.B.A., aged 82 years. He was for many years Surveyor to the Dean and Chapter of Ely and Diocesan Surveyor for Ely.

Joseph Peascod, A.R.I.B.A.

The death has occurred at Keswick, Cumberland, of Mr. Joseph Peascod, A.R.I.B.A. He was 68 years old. After practising in London, he returned to Keswick (his native town) about 30 years ago. He designed the first houses built by Keswick Urban District Council. Mr. Peascod was elected A.R.I.B.A. in 1911.

J. B. Gladstone, L.R.I.B.A.

We announce with regret the death of Mr. John Bright Gladstone, L.R.I.B.A., at the age of 75. He began to practise on his own account in Lockerbie 46 years ago, and was responsible for the design of a number of ecclesiastical buildings in the south of Scotland and north of England. He was elected a Licentiate of the R.I.B.A. in 1925.

A. C. Remnant, F.I.Q.S.

We announce with regret the death, on February 28, at the home of his son, "War Coppice," Caterham, Surrey, of Mr. A. C. Remnant, F.I.Q.S., F.F.A.S., President of the Institute of Quantity Surveyors 1941-46, and late Chartered Surveyor.

H. Russell-Jones.

We regret to record the death on February 22 of Mr. Hambrook Russell-Jones, of Haining, Roehampton, managing director of A.C.E. Machinery, Ltd.

THE ARCHITECT'S BRIEF

Sir Thomas Bennett's Paper to the Architectural Association

SOME of the ways in which the world's economic condition affected architects and their work were commented upon by SIR THOMAS BENNETT, F.R.I.B.A., when he addressed a meeting of the Architectural Association on February 22. The president, Mr. Henry Braddock, A.R.I.B.A., was in the chair.

Sir Thomas said that the architect today had to work in a period of transition. Technically and artistically, thought was changing more rapidly than in any other period within reasonable living memory. No one now was prepared to follow the instructions of anyone else without question. In these circumstances, what precisely was meant by briefing, and what precise effect did architects have on the brief produced? Someone told the architect to design a building of a certain character, but that only started the argument. The architect must now rove over the fields of science which were contributing more and more to the building erected, and he must rove over the field of economics which were governing more and more what had to be built.

Finally, he arrived at a stage where even the simplest construction was subject to extraordinary variations, and was capable of having spent upon it an amount of constructive thought such as nobody imagined years ago. For a generation not far removed from our own, building had been primarily for individuals or for bodies which had great collective wealth. He could not imagine that either Gothic cathedrals or the great country houses of a later period were particularly subject to an estimate of costs. Only a generation or two ago the great museums and town halls were very largely of simple construction, and as recently as the turn of the century building was almost completely traditional.

At that date the architect could to a very large extent command the knowledge needed to design a building with the minimum of assistance from any other profession; whereas to-day one of his difficulties was the complicated mass of advice needed for any building of size and consequence. Starting with these considerations, and seeking to discover how the architect's brief came into existence to-day, the first thing to be noted was the economic condition of the world in which we were living.

There was the competition of eastern nations at an extremely low standard of living, and that of industrial nations like Germany, forced down to a standard of living in which any kind of subsistence was welcome. In this country we could produce food for only half our population, and were therefore bound to sell our manufactures. It seemed impossible to enjoy a standard of living materially higher than that of Asiatics or Germans unless we could match their competition with an altogether unthought of improvement in the standard of thought that we could put into our work, whether in architecture or in any other activity.

From the architect's point of view the house was the simplest essential of human life, and it must meet two diametrically opposite lines of thought. First of all it must be something we could afford and, secondly, it must conform to the standard of living which we had built up. In order that these lines of thought might be interpreted properly they must be married to the technical development of the age in which the house was being built. Simple though it seemed to design a house, the architect was faced with the fact that he must design upon size and materials, and also with something which was not economics, or technique, or architecture, i.e., a competition for the votes of the people who were to live in the houses.

In the Housing Manual the architect was instructed to keep his designs down to certain dimensions. It was sometimes suggested that he ought not to be given dimensions but should be given something very loosely constructed in which his own skill and ability would have wider play. His (the speaker's) own experienee was that when you issued instructions to be carried out by thousands of people, if those instructions were of a loose character you got astonishing results from some quarters. Also you found that many people were economically irresponsible. You must lay down some elementary basis in three dimensions to be regarded as the maximum and minimum of accommodation to be provided.

A Definite Basis.

The architect's planning masters perhaps told him too much, specifying the area of rooms for different purposes and so on, but some basis was necessary if he was to translate his problem into actual fact. He (Sir Thomas Bennett) thought the size of houses ought to be the result of technical examination of the standards of housing of the world, along with careful consideration of what we could afford. It should also be related to the methods which other countries had adopted to achieve the same object as we were attempting, i.e., that of housing the mass of the people according to the best standards of construction under the complicated conditions in which we lived.

In Switzerland people were accustomed to walk a great deal more than we in Britain; this led to the use of footpaths to a much greater extent than was usual in this country, with a resultant economy.

In Sweden in a house with one bedroom there was often a man, wife and several children. In America the standard of housing fell far below our own. In so far as the architect regarded himself merely as a technician, he might sit back and wait until someone else told him what to design; but he might take another view and say that, as he had a technical and artistic mind, he was in a position to advise the politicians as to the sort of houses that should be built, and on methods of construction. When analysed many housing schemes were seen to suffer from disabilities because their designers had not sufficiently considered the apparently small yet important details.

An important principle that should be considered when the architect was constructing his brief, was that of national habits, the extent to which people could be guided into other less costly habits as a contribution to the solution of the housing problem.

An architect engaged on a large building had so much to cope with, said Sir Thomas, that he alone could not be expected to design the heating, electrical system, ventilation and all the other things connected with such a building; but architects prided themselves on being the co-ordinators of the building, and it was possible to know enough to be able to offer advice upon this or that service,

and to know the sources to go to for further information. Through the knowledge that was the basis of his technical teaching, added to the experience gathered in his daily work, he might reach a stage where the client came to him and said: "I am proposing to develop a piece of land; I want you to put a building upon it: what sort of a building do you suggest—houses, theatre, or some other kind of building?"

There were many cases in which the client was building to a specific requirement, for an hotel, cinema or other class of building. Such clients were apt to think that the only way to erect their building was in accordance with something of which they had had experience; and in such a case the architect might contribute a good deal to layout by studying the precise nature of what was required.

The further he studied the briefing question, Sir Thomas concluded, the more it seemed to him that the architect's contribution must be magnified. The endeavour now was to provide every kind of building for the use of the maximum number of people. Design could not be irrespective of cost. Sketch plan and estimate must go hand in hand.

MR. F. GIBBERD, who moved a vote of thanks to Sir Thomas, said the client had no right to brief the architect. If the client wanted a Tudor cottage the architect should refer him to a speculative builder who did that kind of work. The architect was bound to give the client a date when the building would be finished, and he should keep that date.

MR. R. MATTHEW said that in these days, when so much work was being done by one public authority or another, it was at times difficult to discover who was the client. In the case of school buildings there was at the top the Ministry of Education doing what might be called semi-research work. To some extent the Ministry represented the client, but there was also the local education authority, itself split up into several parts. There was its education officer and his department interpreting the educational policy of the local authority, the education committee itself determining policy and, on a more local basis, there was the teaching staff and pupils. Who was the client?

It seemed to him that the only satisfactory solution would be for all these sections to come together before the building brief was settled, so that the brief itself would be the result of collaboration between the different parts of the client. He had recently had the opportunity of comparing the briefing documents issued by the London County Council and the Housing Authorities of New York and Chicago. That of the L.C.C. was only four pages long, and came to this: that if the architect came across a problem he should come to the County Hall, where he would be told all about it. The New York document was 65 pages long, divided into seven or eight sections, and going into very precise details. The document issued by Chicago was of moderate size, and seemed to be eminently sensible. As an addendum it had an analysis of every conceivable kind of construction divided into two parts, capital cost and maintenance, and it contained a warning that all designs submitted would be analysed in terms of these cost factors. The analysis had to be made by the architect, and was checked by the housing authority. To him (Mr. Matthew) it seemed that the experience of any public authority in construction and maintenance could be simply codified and given to any private architect who might be doing a job of that sort.

THE CLAIM OF AMENITY

"Something to Delight in"

A PLEA for more of that sort of amenity that is mostly concerned with our delight, especially with preservation of beauty and the pleasure it gives the beholder, was made by MR. CLOUGH WILLIAMS-ELLIS, F.R.I.B.A., when he addressed a meeting of the Town and Country Planning Association on March 1.

All the other amenity providers, from those giving us sewers to those giving us security, were undoubtedly meeting real human needs, but were scarcely adding to our delight, said Mr. Williams-Ellis, whose following remarks are here summarised:

It is for them and their several provisions to keep us alive—for me and mine to make us glad we are alive. I think that makes the difference between us clear—a difference that ought to be much smaller than in actual fact it is. True, nothing could make a sewage farm or a bombing range delectable rustic retreats for peaceful meditation, but they could often be sited and contrived with less brutal disregard for the feelings of civilised citizens. I accept both as about equally unpleasant necessities at our present primitive stage of evolution, but I do say that if the single-minded enthusiasts who provide such things would pay a little more attention to amenity in my sense—would use a little more discretion and imagination, or be advised by someone skilled in and dedicated to visual amenity (a landscape architect for instance)—why then we could get all these basic necessities without having to pay such an unnecessarily high price in lost delight.

Let me give a brief list of the sort of things I mean, the kind of activities that are commonly so fatal to natural beauty: mining, quarrying and cement works, open-cast workings, hydro-electric schemes, municipal water-supply schemes, camps, ranges, aerodromes, battle-training areas and all manner of large-scale provisions for the three fighting services, afforestation, road and other transport undertakings, the electricity grid and Post Office overhead lines, holiday camps and other tourist developments, local authority housing and other works, agricultural and rural industrial structures.

Co-operation.

The instinct of the landscape architect is to resist most of such developments in the hope that they may be so averted; yet it should be constructive resistance, so that if the particular proposal in question is actually proceeded with, it is only after its promoters have thought their hardest about it in all its aspects and amended and modified and omitted and added until they have made it as acceptable as they can in their efforts to placate and even win over the ever-watchful opposition—the Visual Amenity Brigade.

Granted such reasonable co-operation we can, of course, generally welcome agriculture, forestry, and rural housing projects.

Most of the others should normally only gain access, to National Parks for instance, over respectable piles of dead bodies; that is if we subscribe to the basic idea of such areas, and that is "a territory within which amenity considerations (in my sense) are paramount." If we have an army, of course it must be properly trained or it's simply men and money straight down the drain, and if we have now given the services such prodigious weapons that they need a whole countryside for effective battle practice instead of a parade ground, we can't blame them, only lament the unhappy fact.

But I can and do blame them, the War Office particularly, not so much for being land grabbers as for being such land misers, hanging on to wide areas that they don't use at all, or very little. They apparently like to feel that they have got a nice fat credit of hundreds of thousands of acres tucked away in their land bank against a rainy day, when they might somehow come in useful again.

Very natural, very comfortable, no doubt, but we just cannot afford to let these precious acres be thus unprofitably hoarded and be lost to general circulation. I should like it enacted that no service department should be allowed to hold and to sterilise any land that it did not effectively use say two hundred days a year.

That should make them think. That should make them rationalise, make them use the same areas for different purposes at different times instead of so extravagantly having separate sites for all their various seasonal activities. Of course, there are obvious limits to compact overlapping planning, but while unlimited land has, alas! been so tamely yielded up to the soldiers, there was no call for them to be ingenious or economical in their land use, no need to curb their land hunger, and they certainly did not. Backed by a real popular clamour, I think that Ministers may be found to be a good deal less pliable in the future, being now perhaps less frightened of the soldiers than of us!

Housing Has Reformed.

As to farming and food production generally, our conflicts of interest are so rare and relatively so trivial that they are scarcely worth mentioning and, generally speaking, the better the husbandry the better for amenity. As to housing, my complaints are now far less bitter than they were and were justified in being, between the wars. There is now a real attempt at reasonable neighbourly concentration, the avoidance of wasteful scatteration and, above all, of our most frantic insanity, ribbon building. Yet housing is still a gluttonous land-grabber—still indefensibly and wastefully voracious.

The Forestry Commission, in its lordly way, takes land in ten-thousand-acre dollops for its new planting schemes, apparently regardless of the fact that the whole of Britain is disfigured by numberless derelict woodlands where neglect or recent felling has left a worthless wilderness. I do not expect the Forestry Commission to conduct its vast operations of timber production on any other than the soundest business lines—that's its job—but it should be expected to make some concessions to configuration, to make more courteous gestures towards amenity, at least on the fringes of its territories, than any it has yet made.

Bending Properties of Timber.

The D.S.I.R. have recently published their Leaflet No. 45, December, 1949, "The Steam Bending Properties of Various Timbers"—Part 1. Copies of this leaflet can be obtained gratis from the Forest Products Research Laboratory, Princes Risborough, Aylesbury, Bucks.

THE IDEAL HOME EXHIBITION

From a Correspondent

THOUGH there is nothing particularly new in this year's *Daily Mail* Ideal Home Exhibition, which opened at Olympia on Tuesday last, it is a very gay and attractive show. The promoters know well how to do these things and they contrive continually to give a fresh setting to the scene. This year the stands in the Grand Hall are surmounted by a parabolic arch of tubular construction in aluminium alloy, 75 ft. high and 100 ft. across the base, linked with subsidiary arches over the central stands, and enlivened by a great flutter of red and white streamers (also in light alloy): the whole seen against a pale blue muslin lining to the roof. It must be reckoned a distinct success. The aluminium structure was designed by Sergei Kadleigh, A.R.I.B.A., and carried out by J. Starkie Gardner, Ltd.

Taken in its entirety, the exhibition should be judged from the standpoint of the general public. There is much in it that is outside the scope of these pages—foods, cookery, laundry work, frocks and fashions, and so forth. But a substantial amount remains that is of professional interest to architects and builders. What is called "The Village of Ideal Homes" claims first attention. Actually this consists of five houses, and there is no surprise like the three-storey Ministry of Health terrace in last year's show. All five houses, however, are acquirable, not "dream" houses. Three of them, by E. and L. Berg, Ltd., C. H. Coates, Ltd., and Davis Estates, Ltd., are of the sort that the public like; the fourth, the "Unity" house, constructed on the system designed by Kendrick Findlay and Partners, has a more architectural appeal; and the fifth is a timber bungalow designed by the State Housing Division of the New Zealand Ministry of Works. In all five, P.P.G. insulating gypsum plasterboard, fire resisting and (with its coating of aluminium foil) thermal insulating, has been used for wall linings and ceilings.

The "Unity" house is of similar construction to the house shown at last year's Exhibition. It has a load-carrying frame of concrete columns and steel beams, clothed with hollow walls of concrete slabs and roofed with "Redland" concrete tiles. The outer skin of the walls is of 2½-in. slabs of manufactured stone, laid dry. This house has been furnished by the Council of Industrial Design with modern utility furniture chosen from the 1951 Stock List. It is a refreshing change from the over-furnished rooms that are usually seen in exhibition houses. Mr. John Hill was appointed by the Council to carry out the display. He has chosen furniture in light woods by R. Y. Goodden, R. D. Russell, Frank Austin, Neville Ward and David Joel, and as background to the various schemes there are some very engaging modern wallpapers by Sanderson. Mr. John Hill, it may be added, has been responsible for some notable interiors of a public character. He redecorated the River Room at the Savoy Hotel, designed three suites at Claridge's, a new bar at the Travellers' Club, and was responsible for the decoration and furnishings of the reception rooms at the British Council's house in Portland-place. All the more interesting, therefore, to see what he can do on a minor scale in this everyday house.

The New Zealand bungalow is interesting for several reasons. First it represents a type of house to let. The Government has financed more than 30,000 of these State homes, built by private enterprise, for people in all walks of life, and the State-owned house is now an accepted feature of towns and cities in New Zealand. A bungalow like this one at the Exhibition is let at 30s. a week, unfurnished. It is planned and equipped for housewives who have no domestic help, the plan having a meals room adjacent to the kitchen, a good-sized living-room (16 ft. 9 in. by 11 ft. 6 in.), three bedrooms (each with a built-in wardrobe), bathroom, separate w.c., and, most important, a laundry room with twin-tubs and a copper fired with solid fuel. There is only one open fire in the house—in the living-room—and there is a generous supply of electric points. The carcase of the bungalow is of timber, the weather-boarded walls being of matai, the New Zealand black pine, and rimu, the red pine; window-frames of totara, a wood like teak. The roof is of "Marley" concrete tiles.

House Equipment.

Coming so soon after the Building Exhibition, it is not to be expected that there will be much that is new in the present show at Olympia. Nevertheless, there are many displays that are well worth a visit by all who are interested in fires, hot-water supply, cookers and other items of house equipment. In the Grand Hall, both the Gas Council and the British Electrical Development Association have a very good show. So, too, has the Coal Utilisation Joint Council. Here can be seen appliances which are not only efficient in operation but also seemly in appearance. The same cannot be said of some other exhibits of the same kind—fireplaces especially. The actual fires are, no doubt, excellent, but the settings are deplorable.

On the stand of Ascot Gas Water Heaters, Ltd., I noticed the new 503 sink heater and the built-in balanced-flue multipoint heater, type 712. The latter dispenses with the familiar inside baffle. Instead, it takes its air supply and discharges its products of combustion through a single divided flue through the wall. It will be in production, I understand, at the end of this summer. Another example of the same kind is the "Sapphire" balanced-flue space heater, shown on the Gas Council's stand, where I also noted a self-contained "Hotspring" shower cabinet of enamelled metal with a gas heater in a compartment of it. It costs about as much as a television set.

Another exhibit I especially noted is a "Belling" electric cooker mounted on dwarf wheels, so that it can be pulled out to allow the wall behind to be cleaned.

Aga Heat, Ltd., show their latest cookers, including the "C.B." which does the cooking for an average-sized family and heats water as well, all on 3½ tons of smokeless fuel per year: and there is also the new "Agamatic" domestic boiler.

Of various other items of equipment that caught my eye—such as the latest boilers, stoves and cookers by Crane, Ltd., Trianco, Ltd., and the Esse Cooker Co. (Smith and Wellstood, Ltd.)—I cannot here speak, though I think a special word of praise is merited by the excellent displays of refrigerators and water softeners; and in the Grand Hall gallery there is, of course, as hitherto, a positive hum of vacuum cleaners, floor polishers and kindred labour-savers.

For the rest, there are the gardens—very much as before, but always astonishing by their display of trees in blossom, roses, carnations and other flowers, in settings that simulate nature so marvellously in what is nothing more than a concrete waste.

The French Government display, in the Grand Hall, did not appeal to me. With its Louis XVI period panelling, hangings of crimson damask and white lace, and a table set with a Limoges service and coloured cut-glass in abundance, it is

PLAN OF THE HOUSE

PLAN OF BUNGALOW, designed by the State Housing Division of the New Zealand Ministry of Works.

all too sumptuous, and quite unrelated to ordinary homes.

A hundred and one other things attract the attention including the remarkable model of a steelworks in action, 60 ft. by 24 ft., in the Empire Hall. And you can be fascinated by working machines which pick up Gillette razor blades and wrap them up in waxed and outer papers: and the Tate and Lyle machines which, at astonishing speed, make blue paper cartons, print them, fill each with a pound of sugar, seal them up and deliver them ready for packing in batches. Then, when you are exhausted after so much travail—having first parked any children you have, between the ages of 3 and 9, in Nestlé's Playland—you can take the lift to the second floor of the Empire Hall and relax in a Rest Lounge of "Berkeley" easy chairs, gazing the while at the picture display on the walls, by students from many art schools.

The Exhibition is open till April 1, from 9.30 a.m. to 9.30 p.m., every day (except Sunday): admission 2s. 9d., children 1s. 9d.

INQUIRY BUREAU

Landlord's Fixtures

Q.—The tenant of one floor of a house has provided for his use only one sink for personal and domestic washing, and one external w.c. The tenant is dissatisfied with this rather meagre equipment, and is considering fitting a better-quality sink, a corner lavatory-basin and possibly a sitting-type bath. The existing plumbing would have to be modified accordingly. It is also possible that he will consider fitting a gas water-heater of some sort. Before incurring the expense of purchasing and fitting such items, however, the tenant is anxious to know the position arising in the event of his quitting the property. Briefly—(a) What comprises a landlord's fixture? (b) What are the laws or regulations governing the fitting and removal of such fixtures by the tenant who supplied them? (c) What method of fixing, if any, can be adopted to overcome the forfeiture of such fixtures if this is laid down by any laws or regulations? CURIOUS.

A.—The question of Fixtures is a matter of some complication, depending as it does upon the Common Law, including decisions in the courts upon a large variety of points.

The following principles should throw some light on the matter, but it must be borne in mind that the facts in each case will often have to be examined before the class of fixture is determined:

(a) A Landlord's Fixture can be one which is attached to the premises *at the date* of letting, as well as those fixed by the landlord *during* the letting, and also any affixed *by the tenant* which he cannot remove at the end of the letting. It is only necessary to mention that Tenant's Fixtures comprise those which he can remove at end of tenancy. Trade Fixtures, a class in themselves, are purposely omitted.

(b) As mentioned above, the "laws or regulations," to use your correspondent's own words, are to be found in the Common Law and court decisions covering a host of various matters. Only a comparison of the latter with the circumstances in a particular case will throw any light upon the matter.

(c) With regard to the "method of fixing," the following principles will form a general guide:

1. If the Fixture is *lightly* affixed by the tenant, and can be removed without damaging the premises, then it is a Tenant's Fixture.

2. If this is not so, then it is considered to be *part of the premises* and hence the property of the landlord, and so not removable unless covered by some kind of agreement between landlord and tenant in regard to its removal, or alternatively governed by some statute as, for example, the Agricultural Holdings Act, 1923, which *inter alia* provides for Landlords' Fixtures for agricultural purposes.

3. Apart from the above, sometimes the *intention* of the parties when they fixed the thing (as well as the manner of fixing) may decide the matter.

4. Apart from Trade Fixtures, there is a *presumption* that if a thing is affixed in such a way that removal is difficult without damage to the premises, then it is a Landlord's Fixture and irremovable (except under agreement, etc.).

5. From the cases it appears that a Landlord's Fixture need not always remain where originally fixed on the premises, but may be detached where possible, and without damage, and re-erected elsewhere on the landlord's premises.

6. In all cases where a fixture is capable of being removed, and is removed, all damage to the premises must be made good by the person who removes it.

In conclusion, it is suggested to your correspondent that, with matters likely to prove controversial at the end of a tenancy, an agreement should be drawn up to cover them. N. P. G.

Crack in Ceiling

Q.—In a ground-floor room of my house the outline of the hearth of the fireplace in the room above has always shown on the ceiling. Recently alterations next door have caused a crack ¼ in. in width to appear halfway round the outline. I have had two builders in and one said it would be all right to fill up the cracks and use lining paper to finish; and the second said the portion of ceiling affected should come down and the bottom of the hearth chipped away, otherwise the outline would always show. I would be grateful for your opinion on the matter. A. B.

A.—I suggest the cracks show because there has been movement of the metal corbels that carry the trimmer joists on either side of the chimney breast. It is more than possible that the alterations next door have caused this. The corbels should be inspected by removing the plaster, and if they are loose they should be secured by driving in slate and Portland cement mortar. This must be attended to, to stop any further cracking. When the corbels are thoroughly secure, cut the cracks out deeply, fill in with scrim and plaster, allow the scrim to lap on both sides in the undercoat of the plasterwork and make good. Certain proprietary plasters are claimed to be ideal for stopping cracks.

With regard to the second suggestion of taking down the portion of ceiling and chipping the hearth, I suggest that in the ordinary way this is not possible, as the concrete of the hearth, or it may be a brick trimmer arch, is at least two inches above the face of the finished plasterwork, and certainly could not be chipped. So far as my experience goes, that part of a ceiling is always lathed and plastered. There would be no point in plastering direct on concrete, especially when the hearth would be subjected to changing temperatures which certainly cause cracking. G. W. H.

[The names of the proprietary plasters have been forwarded.—ED.]

Bakery Fat: Stoppage in Drains

Q.—Our clients are biscuit manufacturers and, of course, use a large quantity of fat in the bakery. Some of this gets onto the floors and ultimately into the drains. Every 12 months or so the fat causes stoppages in the drains and these have to be prodded out and very often it is a difficult matter to get them clear.

Is there any method of avoiding this, as for example, periodic flushing with a degreasing agent? PEKAS.

A.—I suggest the grease should be intercepted at a point before it enters the general drainage. I strongly recommend the introduction of a grease trap. This can be made of cast iron, and I have used a particular kind in large hotels and schools. It has a solid cover and an inspection eye on the outlet. Internally the trap is provided with a perforated iron tray, capable of being lifted out. The tray is provided with handles on either side so that when the grease accumulates the tray can be lifted out. It is necessary to give the trap regular attention. If at all possible it should be installed near the outside of the building and if drainage is necessary inside the factory I suggest half channel sections with perforated iron covers or, alternatively, a master gulley could be inserted at the top end of the drainage system. This could have an extension top and take three or four pipes. The top portion should have a flushing rim connected to an automatic tank. The force of the water supplied from the tank will break up the grease and wash it through the drain. The size of the tank will depend on the amount of drainage that will require flushing.

With reference to a solvent for removing the grease, there are several firms whose solvents should have a guarantee that they will not affect the joints of the drainage system or the lining of pipes. G. W. H.

[The names of the proprietary items mentioned and the manufacturers' addresses have been forwarded.—ED.]

HOUSING OF SPECIAL GROUPS

Questionnaire to Local Authorities

LOCAL authorities are being asked for their opinion on what should be done to meet the housing needs of old people, the physically disabled, large families and other special groups. A questionnaire has been sent out by the Sub-Committee of the Scottish Housing Advisory Committee, Department of Health for Scotland, St. Andrew's House, Edinburgh, 1, which was recently set up to advise the Secretary of State on the housing of special groups.

The questionnaire asks for particulars of special accommodation already provided (cottages—detached, semi-detached or terraced—flatted villas, flats or hostels), and for views on what types are most suitable. Details of the ways in which the accommodation should be designed and sited, and the principles which should govern its provision and allocation, are also requested.

SLATING AND TILING

"Not a Declining Craft"

OLD and new roofing materials and their application, was the subject of a talk given recently by MR. C. G. DOBSON to members of the Institute of Quantity Surveyors at Caxton Hall, Westminster.

The first slaters and tilers in England, said Mr. Dobson, were the Romans, who perforce used the materials (slates, clay tiles or stone slates) that were indigenous to any particular locality. They used slates in random widths and lengths, fixed with iron nails; their stone slates (Cotswold, etc.) were rectangular in shape, laid diagonally, and also fixed with iron nails. So far as is known, the only pattern of tile made by the Romans was the large flat single-lap tile (tegula) laid in horizontal courses, with the side joints covered by a semi-circular, tapered ridge tile (imbrex). The effect on the roof was similar to that given by the modern Double Roman tile, in which the tegula and imbrex were combined in one unit.

The slate quarries of England and Wales were all situated west of a line passing Exeter - Cardiff - Liverpool - Carlisle, the greatest concentration of quarries being in the north-west corner of Wales.

Nearly all the slates produced in England and Wales were of high quality, and many of them could be described without exaggeration as being, for all practical purposes, everlasting.

Mr. Dobson said that the modern tiler had at his command a very wide range of materials. Until the middle of the last century the hand-made tile had a clear field, but the machine-made tile, coming as it did at a time when the railway network was being completed, challenged the older type. The hand-made tile, however, held its own and was still preferred by most architects for its mellowing and weathering qualities.

The range of materials from which architects and building owners could choose a roof covering was wider now than it had ever been, said the speaker, and the craftsman had therefore to be more versatile than his forerunners. There were, it was true, specialists in certain materials, such as asbestos-cement, men who had to fix only that material, but the general slater or tiler had to know and be able to fix anything from asbestos-cement to Westmorland slates or Spanish tiles.

It was not true, as many believed, that the craft of slating and tiling had declined. Our skilled craftsmen's work was as good as any done in the past, it was definitely "cleaner," and the general standard of workmanship on work that was worthwhile was high.

Referring to stone slates and thatch, Mr. Dobson said that they could fairly be described as survivals, very charming survivals, from a period that was already past when the first world war started. It was to be hoped, however, that there would always be a few who, out of regard for our traditional building methods, would be prepared to spend an extra few pounds to have these materials on their roofs.

Mr. Dobson went on: The importance of roof preparation is better understood now than at any time in the past. The old slater and tiler, in most parts of England, torched both slates and tiles on the underside; this practice has now been superseded, particularly in the southern half of England, by the use of untearable felt. Opinion is still divided as to the relative merits of torching and felting, but there can be no doubt that unless the torching is to be done by a craftsman who thoroughly understands the job, it is better to use untearable felt.

The use of mortar is to be avoided in roofing wherever possible. The bedding of tiles, for instance, is now hardly ever done, but there are many parts of the roof where mortar must be used; in the fixing of ridge tiles and bonnet hips—to quote only two examples — bedding is essential, but it should be kept down to a minimum. Here, again, modern practice differs from that of the past. The old tiler usually bedded his ridges solid. His modern counterpart uses mortar only at places where two ridge tiles meet or where the edge of the ridge tile meets the roof. The composition of the mortar, too, has changed. We still see specifications which ask for lime and hair mortar, but cement mortar is more often used. Mortar for both bedding and pointing should be a 1-3 mix of Portland cement and good building sand; a weaker mortar is ineffective and a stronger one often cracks. The use of mortar in places where it is not strictly necessary is to be avoided: it may form a miniature dam which encourages the entry of water into the roof rather than keeping it out. This can happen, for example, where the outside joints of slates and tiles are pointed. Although no craftsman will do this, it is often done by jobbing builders in an attempt to cure a leaky roof.

At verges, pointing is necessary in tiling, but bedding is only done where an undercloak is fitted. Essentials of a good verge are: (a) it must be so finished that water cannot penetrate between the verge tiles and so enter the roof; (b) It must protect the surface of the wall immediately under the verge; (c) It must be so formed that water is encouraged to run down the roof rather than over the verge.

The first condition is satisfied if the verge is adequately bedded and properly pointed; the pointing is best done when the verge is bedded or as soon afterwards as possible. If there be too long a delay between the two processes, the pointing material may not properly adhere to the bedding. The inward tilt may be given to the verge in plain tiling and on slated roofs where small sizes are used. With large slates and with single-lap tiles, it is better not to give an inward tilt or, at any rate, only a very slight one.

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H.V.49

HEIGHT OF HABITABLE ROOMS

Experimental Reduction Proposed by L.C.C. Committees

PROPOSALS permitting, for an experimental period of one year, a minimum height of eight feet from floor to ceiling of habitable rooms on all floors in blocks of flats with staircase access and in cottages, including three-storey terrace houses, were laid before the London County Council at its meeting on March 8.

A report submitted jointly by the Town Planning and Housing Committee states that in view of the improved planning of modern houses and flats with their larger living rooms, providing carefully designed means of ventilation, there would be many practical advantages in building houses and flats with ceilings lower than those at present allowed (at least 8 ft. 6 in. in habitable rooms on all storeys except the top, where the minimum is 8 ft.). The buildings could be erected faster, and with less labour and less materials, both of which are scarce. "Moreover," continues the report, "the Ministry of Works, in conjunction with the British Standards Institution, have formulated standards of building components and equipment for post-war houses based on a height of habitable rooms of 8 ft., and such components could be installed without the need for special adaptation. A reduced height would otherwise ease internal planning problems and often give scope for better architectural treatment and design. Less fuel would be needed to heat the rooms.

"We do not think that any change which would reduce the natural lighting of the rooms beneath balconies in blocks of flats with balcony access would be justified, but in the construction of other flats and houses some modification should be allowed in suitable circumstances.

"The Town Planning Committee have decided that, subject to consideration of each individual case on its merits, in the light of modern planning standards, particularly the factors of daylighting, they will permit a minimum height of 8 ft. from floor to ceiling of habitable rooms on all floors in blocks of flats with staircase access and in cottages including three-storey terrace houses. This modification of present practice will operate for one year in the first instance, will be effected by way of waiver of bye-law 141, and will relate to all housing development, whether by the Council, the Metropolitan Borough Councils or private developers."

So far as the L.C.C.'s housing schemes are concerned, it is estimated that the modification will result in a saving of £25 for each flat and £14 5s. for each cottage.

The report concludes by stating that when experience has been gained, it may be advisable to amend the bye-law, and consideration will be given to the possibility of relating height of rooms to their domestic use and cubic capacity.

"PREPLANNING AIDS PRODUCTIVITY"

Mr. Lloyd Quotes American Example

THE value of preplanning as an aid to productivity was commented upon by MR. ROBERT O. LLOYD, O.B.E., F.I.O.B. (of Birkenhead), President of the National Federation of Building Trades Employers, when he spoke at the annual dinner of the Yorkshire Federation at Leeds, on March 3.

Mr. Lloyd said that despite basic differences between the economies of the two countries, the British building industry had much to learn from its American counterpart. When he was over there last summer, as leader of the industry's Productivity Team, he saw many things that, if adopted in Great Britain, must have the effect of speeding up production and lowering costs.

"In America, before the contractor lays a single brick," went on the President, "every operation is planned in great detail. The building owner makes up his mind exactly what he wants and the architect presents the contractor with complete details and working drawings which enable him to draw up his tender with absolute knowledge of all the facts. I cannot stress too highly what this means in terms of efficiency and productivity and I hope that when the Team's report is published, its recommendations on this score will be adequately noted by architects and building owners here.

"I am also convinced that, as is the case in the United States, there must be a freer flow of materials to the sites here. When the operatives know that there is an abundance of all types of necessary materials coming forward, there is an incentive to work harder and the employer is able to plan the building job well ahead and not be hampered by delays in delivery. On the jobs I saw in America, everything possible was done to make building operations as simple as possible. There are few restrictive regulations there and building materials are standardised to a greater degree than is the case here. The work of sub-contractors —plumbers, electricians and so on—is carried out more efficiently, due to the minuteness of the pre-organisation of the job and the regard which is paid to this planning by all working on it. For instance, plumbing work proceeds as the main structure goes up, which means a great saving in man-hours.

"All this preplanning, which helps the productivity of the American building industry, is only possible because all sections of it work as a completely integrated team with one goal in front of them—to get the job finished as efficiently and speedily as possible."

HOUSING PROGRESS

THE Housing Progress Summary presented to Parliament on March 7 shows that the number of permanent houses completed in Great Britain during January was 14,356, compared with 17,436 in December. The total number of houses completed under the post-war programme is now 794,849 (637,703 permanent and 157,146 temporary).

During January, homes were provided by new building, repair of uninhabitable houses and conversion for 15,887 families, compared with 18,726 in December. This brings the total number of families rehoused by these methods under the post-war programme to 1,066,772. This total does not include homes provided in service camps or requisitioned houses.

OFFICIAL NOTIFICATIONS

Charges for Landed Softwood.

The Board of Trade announces that after discussions with the timber trade it has been decided to continue in future the provisions in the current Softwood Prices Order, which permit sellers to add to the "ex ship" price for landed softwood, a charge which is reasonable in relation to the average costs incurred between taking delivery "ex ship" and loading on to a conveyance.

Belgian Congo Hardwoods.

The expenditure of a limited sum has been authorised by the Board of Trade for the private purchase of hardwoods from the Belgian Congo, for which payment must be made not later than June 30, 1950. Any person wishing to purchase and import goods from this source should submit to B.o.T. Timber Control, Dept. III/8, 30, Cadogan-square, London, S.W.1, the following information relating to the goods which it is wished to purchase: (a) species; (b) description, i.e. logs or graded lumber; (c) quantity in cubic feet; (d) cost f.o.b. and c.i.f. U.K.

The Timber Controller will make an appropriate allocation of the limited funds available and inform the applicants, who may then make official application on Form ILD/A (in duplicate) to B.o.T. Timber Control, Dept. III/8, Clifton Down Hotel, Bristol, for an import licence and arrange for the necessary funds to be available. In view of the limited sum available it is requested that applications be confined to available species for which there is known to be a good demand and that the quantity applied for be reasonable.

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BUILDING INDUSTRY'S RECORD

London President's Reminder to Politicians

"AS this month marks the beginning of a new building season, as well as the opening of a new Parliament, I hope the politicians will now retire from the building industry for a little while and allow us to get on with our job while they get on with theirs." MR. R. R. COSTAIN, C.B.E., the new President of the London Master Builders' Association, said this at a luncheon in his honour given by the North-Western Area at Harrow on March 3. Mr. T. Cutler, chairman of the Area, presided.

"Believe it or not," said Mr. Costain, "and it makes strange hearing after all the speeches we have listened to during the past month, it is still the builders, not the politicians, who build the houses and the factories and the shops and the schools and the hospitals for which every political party was claiming credit during the Election. Politicians don't build, no matter what party they belong to.

"So, when the next General Election comes along, as come it must before many months, I hope the leaders of all the parties taking part in it will waive their parties' claims, which they cannot in the slightest substantiate, to having built so-and-so many millions of houses, and leave to us, the humble builders of the country—Browning's 'plain white-aproned men,' as some of us still are—the credit for having done what we have done, and done within the limitations imposed by the Parliament of the day and the economic conditions of the country at the time."

Reducing Costs.

Referring to problems before the building industry to-day, Mr. Costain said that the most important was the need to reduce costs. The blame for increased costs was by no means to be laid entirely on the Government. Controls and restrictions on materials, particularly timber, were a definite handicap to the reduction of costs, but there was still a great deal builders, as builders, could do. "Apart from increased mechanisation and more efficient management," said Mr. Costain, "the road to better, quicker and cheaper building—whether in houses, factories, schools or offices—lies, to my mind, in the more intelligent use of incentives, the better training of men in the industry, and a greater degree of co-operation among all sections of the industry.

"In a sense, these are long-term remedies, but that is no reason why we should not put them into operation as far as possible to-day. Many firms are already doing this—operating incentive schemes which the men understand and which give the maximum return to all concerned; organising classes for all sections of their work-people and for new entrants into the industry; and ensuring that every section of the labour-force, manual and technical alike, knows and appreciates what the others are doing and why.

"What some firms can do, can be done by all. That is why I want to urge that only the best is good enough for members of the L.M.B.A., membership of which should be a hall-mark of quality and efficiency in every branch of building, whether in maintenance and repair or in new and large-scale construction."

NEWS IN BRIEF

B.R.S. Digest.

The Building Research Station, Garston, Watford, Herts, have issued Digest No. 15, "Sound Insulation in Traditional Construction."

Tropical Structures.

Messrs. Taylor Woodrow (Building Exports), Ltd., Welbeck-street, W.1, have recently issued an admirably illustrated booklet on Arcon tropical structures. It shows some of the adaptations of the structure, which is a development of the tropical roof described in our issue of January 1, 1948.

1951 Exhibition.

The Festival of Britain Office and the Council of Industrial Design have just issued a booklet entitled "Notes for Industry on the 1951 Exhibition." It gives a summary of the industrial exhibits, the method of selection and of collection, and also gives instructions for submitting products to the 1951 stock list.

Trees and Timber Course.

A six-days study course (April 22 to 27) on "Trees and Timber" has been arranged by the West Riding County Council Education Committee and the North Eastern Region of the Timber Development Association, and will be held at the Grantley Adult College, near Ripon, Yorkshire. Details are obtainable from the Warden, Grantley Hall, Ripon.

Plastics Exhibition.

A British plastics exhibition and convention are to be held at Olympia, London, early in June, 1951. The exhibition, which will be the first trade exhibition representing the whole industry, will be open to all British firms who produce, mould and fabricate plastic materials or supply raw material or equipment to the plastics industry. While primarily for the trade, it will be open also to the public. Lectures, discussions and films will cover all aspects of materials, production and applications.

Population Estimates for 1949.

The Registrar General has recently issued the second of his new series of publications giving up-to-date estimates of the populations of each local government area in England and Wales. They are the estimates as at June 30, 1949, and they differ from those previously issued in that they include the numbers of Armed Forces stationed in each area; the previous estimates related to civilians only. They also give the numbers of children under 15 years of age in each area. Published by H.M. Stationery Office, the price is 4d.

Mechanical Handling Exhibition.

THE Second Mechanical Handling Exhibition and Convention is to be held at Olympia, London, from June 6 to 17. The method of introducing new equipment, overcoming workers' prejudice and adjusting wage rates have been among the most important problems in extending the use of mechanical aids and this will be discussed jointly for the first time by manufacturers and users of the equipment including trade union representatives. A full day's discussion will be led by Capt. Mark Hewitson, M.P., of the General and Municipal Workers Union, and Dr. W. H. Garrett, a director of Monsanto Chemicals, Ltd.

The Anglo-American Council on Productivity, under whose auspices a Mechanical Aids Team from Great Britain recently visited the U.S.A., has accepted an invitation from the team to take part in the Convention and the team itself will organise a discussion of its report.

Appointment of T.D.A. Chief Architect.

FOLLOWING on the resignation of Mr. R. T. Walters, the Timber Development Association have appointed Mr. J. R. M. Poole, Dip.Arch., A.R.I.B.A., A.M.T.P.I., as chief architect.

Concrete Research.

The third number of the "Magazine of Concrete Research" has recently been published by the Cement and Concrete Association, 52, Grosvenor-gardens, London, S.W.1, from whom copies may be obtained, price 2s. 6d.

Forthcoming Photographic Land Survey.

The Ministry of Town and Country Planning are arranging for a photographic survey this year, covering an extensive area of England and Scotland. This will be conducted by the R.A.F. Central Photographic Establishment, Benson, Oxon, who have a comprehensive programme in connection with this and other Government departments.

City of Bath Training College.

The name of Messrs. Geo. M. Hammer and Co., Ltd., of London, N.4, was omitted from the list of sub-contractors and suppliers given in connection with the description of the City of Bath Training College, Newton Park, in our last issue. This firm was responsible for supplying the furniture, special fittings, pianos and furnishing fabrics for the Training College.

Roads in South Wales.

There is very real danger that the economy of South Wales will become lopsided and that lasting prosperity will not be maintained unless the construction of new factories is matched by improved transport facilities, roads, railways and ports, states a pamphlet issued by the British Road Federation entitled "New Roads for South Wales." The pamphlet gives details of the Ministry of Transport's plan to spend £35m. on improving internal road communications in South Wales and constructing a motorway to the Midlands.

F.M.B. Year Book.

The South-West Region of the Federation of Master Builders have issued their 1950 Year Book.

Scottish Building Centre Exhibit.

The recently installed Council of Industrial Design exhibition stand in the Scottish Building Centre was designed by Mr. A. B. Campbell, A.R.I.B.A., A.R.I.A.S., in association with Mr. Alan Reiach, A.R.I.B.A., A.M.T.P.I., and not as given in our last issue.

Tourist Centre in Caernarvonshire.

Specific conditions affecting layout and design have been imposed by the Minister of Town and Country Planning in giving permission for the development of 128 acres as a tourist centre at Ty Newydd, Morfa Bychan, between Criccieth and Portmadoc, Caernarvonshire. The site is near an area recommended by the Hobhouse committee as suitable for a national park. This decision follows a local inquiry into the refusal by Caernarvonshire County Council to allow Mr. W. B. Lane to build 185 cottages on the site.

Seaford Building Exhibition.

Seaford recently held its own building exhibition. Most of the exhibits were domestic, and there was a good show of modern products, particularly kitchen fittings and equipment, bathroom fittings, solid fuel appliances and floor coverings. One exhibit showed a range of kitchen fitments made to B.S.S. by a local builder entirely from off-licence materials. Prices of these fittings were very competitive. The stands were of a high order for both design and construction, and considerable attention had been given to the layout of the various exhibits themselves.

Warehouses for the North-West.

The North-Western Regional Board for Industry has announced that licences to rebuild warehouses destroyed in the war in the ports of Liverpool and Manchester will be granted up to a total of £240,000 in each city during 1950, and stated that this would mean "immediate approval" of almost all the outstanding rebuilding schemes which have been notified to the Board of Trade in this region. When completed the work would increase the port warehousing space by 190,000 sq. ft. at Liverpool and 145,000 sq. ft. at Manchester.

LIVERPOOL'S HOUSING PROGRAMME

LIVERPOOL'S house-building programme for the coming financial year is one of the heaviest it has contemplated, and in its capital account expenditure for the year the sum of £3,580,500 has been set aside. Of this sum £3,011,150 applies to permanent buildings, while in connection with this programme £349,350 will be spent on roads and sewers, and £188,000 on the acquisition of sites. During the year which ends on March 31 the permanent housing programme in the city has cost £2,451,185.

On the revenue estimate side of the permanent housing programme the growing costs for repairs is causing concern. During the past year they have cost nearly £400,000, and next year it is estimated the charge will be £413,700, which badly compares with £234,982 in 1947-48. Altogether, the Housing Committee is engaged on 68 schemes; 37 more projects are contemplated, including a big scheme at Croxteth which starts with 450 dwellings, one at Kirkby with 400 dwellings, and another at Speke with 810 dwellings.

"DISTRICT HEATING IN THE NEW TOWNS"

An Institute of Fuel Paper

THE subject of district heating and its application to the new towns formed the basis of a paper by MR. A. E. MARGOLIS, which was read before members of the Institute of Fuel on March 7.

Mr. Margolis stressed the need for the introduction of district heating in general, and in particular for the new towns. District heating, he said, had the great advantage that in fulfilling its primary task of providing a centralised service, it simultaneously eliminated the smoke nuisance and improved the living conditions for the urban population. The need for district heating in this country was greater and the conditions for its general introduction were more favourable than on the Continent, because of the poorer standard of heating, the greater smoke nuisance in towns and cities, the more wasteful methods of heating and the ease with which heat and power generation could be co-ordinated.

On the Continent and in the U.S.A. district heating systems were being used for supplying heat to buildings already equipped with central heating installations. Only a proportion of the buildings could be connected, and the laying of the heat distribution mains in streets already crowded with existing services involved great difficulties and heavy capital expenditure.

By contrast, in the new towns of this country, the heat supply could be planned economically on a uniform heating basis for the connection of buildings, and the transmission and distribution mains could be conveniently arranged under the pavement or grass verges. As central heating installations in this country were operated almost exclusively by low-pressure hot water with moderate temperatures, in British district heating schemes, hot-water distribution and turbines with very low back-pressure could be used, and the heat and power loads balanced by hot-water storage. The output of electricity and the annual load factor of power stations were thereby increased and the economy of heat-electric operation improved.

Gas and electric heating could not solve the district heating problem, because of their poor annual load factor and the high capital charges on the additional plant capacity which would be required.

The introduction of heat-electric generation was of growing importance for electricity supply, because the new condensing power stations were approaching the limit of thermal efficiency, the fuel cost was continuously increasing, the fuel demand was rapidly growing, and it was becoming difficult to find suitable sites for condensing stations with a sufficient supply of cooling water.

Hitherto the main difficulty in combining heat and electricity generation had been due to the variation of heat and power loads; to-day this could be overcome by the installation of large-capacity hot-water accumulators. The flexibility of heat-electric stations was further increased by the installation of air-blast coolers. By combining exhaust-heat storage and thermal-electric storage, the range of district heating service could be extended to isolated groups of buildings, even to villages far away from the heat-electric station.

The application of district heating for a new town with a population of 40,000 was also examined by Mr. Margolis and the technical outline and the economy of such a scheme were shown. A heat-electric station with a total electricity generating capacity of 60,000 kW. could be installed operating with an annual load factor of 58 per cent. and an average thermal efficiency of 76 per cent., the speaker said. The annual quantity of coal saved amounted to as much as 79,000 tons.

PLUMBING APPRENTICESHIP

National Council Meeting

AT a meeting of the Plumbing Trades National Apprenticeship Council, held in London on January 24, the Hon. Secretary, Mr. A. E. Soones, read the relevant documents in reference to the University Scholarships offered through the B.A.T.C., and it was generally felt that plumbers should be encouraged to secure these scholarships and that some way must be found for the training of technicians within the industry.

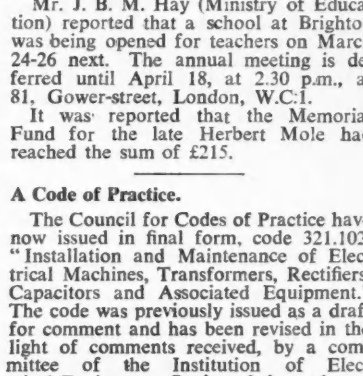
It was reported that of 2,446 lads who had been indentured, 1,135 had completed training and 1,171 were still undergoing training.

Mr. J. B. M. Hay (Ministry of Education) reported that a school at Brighton was being opened for teachers on March 24-26 next. The annual meeting is deferred until April 18, at 2.30 p.m., at 81, Gower-street, London, W.C.1.

It was reported that the Memorial Fund for the late Herbert Mole had reached the sum of £215.

A Code of Practice.

The Council for Codes of Practice have now issued in final form, code 321.102, "Installation and Maintenance of Electrical Machines, Transformers, Rectifiers, Capacitors and Associated Equipment." The code was previously issued as a draft for comment and has been revised in the light of comments received, by a committee of the Institution of Electrical Engineers. Copies of the code are obtainable from the British Standards Institution, 24/28 Victoria-street, S.W.1, price four shillings, post free.



TRADE NEWS

A New Brick Barrow.

The "Clamparrow" barrow, which holds up to 50 bricks, according to the manner in which they are stacked, is now available for purchase, we understand. The design of the clamping mechanism is claimed to represent an advance on the

more usual ratchet and lever principle, and to give a quicker, easier, and more positive action.

Considerable attention has been paid to the balance and manœuvrability on the scaffolding and while the barrow is light in weight, it is strong, the body being made of ¼-in. steel plate. It is claimed that when used in conjunction with mobile and static hoists it provides a quick and safe means of moving bricks from the pile on the ground up to the "brickie's elbow." World selling rights have been acquired by British Hoist and Crane Co., Ltd., Slough, from whom further details may be obtained.

Change of Address.

We are informed that the address of the London branch of the Universal Asbestos Manufacturing Co., Ltd., Watford, has been changed to 8, Upper Grosvenor - street, Grosvenor - square, London, W.1 (Tel.: Grosvenor 5411-2-3).

Firm Appoints Agents.

Messrs. A. Cooksley and Co., Ltd., of 21-25, Tabernacle-street, London, E.C.2. announce that they have appointed Messrs. R. A. Lowe and Partners, Machine Tool Consultants, of 20, St. Michael's-road, Reading, to be their agents for the counties of Bucks, Berks, Oxon and the eastern part of Hampshire.

Aluminium and Its Alloys.

The Aluminium Development Association has issued Bulletin No. 15, "Handling, Storing and Transporting Aluminium and its Alloys," this being a revised edition of an earlier bulletin. It is designed to set a high standard in works practice so as to guide the users of aluminium and its alloys in producing and preserving high-quality products. Nevertheless many of the recommendations given apply equally to other metals and it is noted that the aluminium base materials are free from certain forms of deterioration from which metals often suffer.

THE SCOTTISH BUILDER

NEW BUILDINGS

Glasgow.—Plans to be prepared for additions and alterations, etc., at St. Paul's junior secondary school, Dumbarton-rd., Partick, for which the architect is John MacNab, 129, Bath-st., Glasgow, W.C.2.

Glasgow.—Plans to be prepared for extensions, etc., at Port Dundas-rd. and Milton-st., Cowcaddens, for William MacEwan & Co., Ltd., brewers, for which the architects are Kinnear & Gordon, 56, Melville-st., West End, Edinburgh.

Kirkcudbrightshire.—Plans to be prepared for primary school at New Abbey site, for which the architect is A. T. Caldwell (F.), County-chors., Kirkcudbright.

Stonehouse.—Lanarkshire C.C. to have the school reconstructed with the new centre for meal purposes, for which the architect is William Watt, Albert-rd., Motherwell-Wishaw.

FUTURE CONSTRUCTION

PUBLIC APPOINTMENTS

Full details of Public Appointments open will be found in the Advertisement pages of this and previous issues.

CONTRACTS OPEN

For some contracts still open but not included in this list see previous issues. Those with an asterisk are advertised in this number. The dates at the heads of paragraphs are those for the submission of tenders; a dagger (†) denotes closing date for applications; the name and address at the end refer to the person from whom particulars may be obtained.

BUILDING

MARCH 14.

†**Herne Bay U.D.C.**—6 houses at West Cliff area. A. S. Wilson & Partners, 8, Princes-st., Storey's-gate, Westminster, S.W.1. Dep. £2 2s.

MARCH 15.

†**Cardiff T.C.**—3 blocks of maisonettes at Blackstone-st., Riverside. City S., City Hall. Dep. £2 2s.. Tenders by April 12.

†**Peterborough T.C.**—40 houses at Eastfield estate. City E., Town Hall. Dep. £2 2s. Tenders by April 3.

MARCH 18.

Abingdon (Berks) R.D.C.—Erection of 2 blocks of 4 houses on Camnor site. Council A., Council Offices, 60, Bath-st., Abingdon. Dep. £2 2s.

†**Essex C.C.**—Extensions and alterations at Police Headquarters, New Court, Springfield, Chelmsford. (Est. cost £43,300.) County A.

Flaxton (Yorks) R.D.C.—Erection of 34 houses on various sites. Ward, Porteus & Ruddick, architects, 9, Museum-st., York. Dep. £2 2s.

Wainford (Suffolk) R.D.C.—Erection of 10 bungalows at three sites. J. Owen Bond & Son, architects, St. Faiths House, Mountergate, Norwich. Dep. £2 2s.

Wimborne and Cranborne (Dorset) R.D.C.—Erection of 12 houses and site works at Dean End, Woodcutts, in Sixpenny Handley. Crickmay & Sons, architects, 7, Church-st., Wimborne. Dep. £2 2s.

†**Worcs C.C.**—Erection of infants' section of new County Primary School, Penncricket-la., Causeway Green, Oldbury. F. W. B. Yorke & H. M. Barker (F. & L.), 36, Calthorpe-rd., Edgbaston, Birmingham, 15. Dep. £2 2s.

MARCH 20.

Birkenhead T.C.—Erection of 23 houses on three different sites. E. & S., Town Hall, Birkenhead. Dep. £2 2s.

***Camberwell B.C.**—War damage repair at public overground conveniences, Peckham Rye. B.E. & S. Dep. £2 2s.

†**East Sussex C.C.**—Adaptation of St. Barnabas Old Girls' School, Bexhill, into branch library. J. Catchpole (A.), County A., County Hall, Lewes. Tenders by April 18.

Sandbach U.D.C.—34 houses on housing site No. 5 (off Crewe-rd.). E. & S., Council Offices, Crewe-rd., Sandbach. Dep. £1 1s.

†**Smethwick C.B.**—Sub-police station, 4 houses and 1 flat, Windmill-la. R. Fletcher, B.E. & S. Dep. £2 2s

†**Southampton C.B.**—54 houses at various sites. Boro' A., Civic Centre. Tenders by April 11.

***Wakefield T.C.**—80 houses at Eastmoor. City E., Room 33, Town Hall.

MARCH 21.

†**Blackburn C.B.**—10 bungalows at Phillips-rd. and 12 at Higher Croft site. B.E., Town Hall.

Worksop (Notts) R.D.C.—Erection of 32 houses with roadworks and sewers at Le Brun-sq., Carlton-in-Lindrick. D. B. Thompson (A.), 83, Bridge-st., Worksop. Dep. £3 3s.

MARCH 22.

†***Chislehurst and Sidcup U.D.C.**—182 houses at Edgebury estate. E. T. Chater, C., Council Offices, Sidcup-pl., Sidcup. Dep. £5 5s. Tenders by April 26.

Hendon B.C.—Reinstatement of branch library at Mill Hill. A. O. Knight, M.Inst.C.E., E. & S., Town Hall, Hendon, N.W.4. Dep. £2 2s.

MARCH 23.

***Ealing T.C.**—Public convenience at Horsenden-la., Greenford. B.E., Town Hall. Dep. £3 3s.

†***Hampshire Police Authority.**—One police house at Southbourne-rd., Lymington, and three police houses at Cambridge-rd., Lee-on-Solent. County A., The Castle, Winchester. Dep. £1 1s. each.

MARCH 24.

***Cardiganshire E.C.**—School canteen at Aberystwyth. G. R. Bruce (A.), County A., County Hall, Aberavon. Dep. £1.

†***Dudley Training College Council.**—Extensions to Lingwood hostel, St. James's-rd. A. C. H. Stillman (F.), Training College Council, Green Hall, Lichfield-rd., Stafford. Dep. £4 4s.

Honiton (Devon) R.D.C.—Erection of 4 houses at Cotleigh. S., Council Offices, Manor House, Honiton. Dep. £2 2s.

Stockton-on-Tees B.C.—Erection of 196 houses on land north of Darlington-la. and east of Durham-rd. Boro' A., 28, The Square, Stockton-on-Tees. Dep. £2 2s.

MARCH 25.

***Stepney B.C.**—War damage repairs to various properties. Chief Technical Officer for War Damage, 191-3, Commercial-rd., E.1. Dep. £2 2s.

MARCH 27.

***Barrow-in-Furness T.C.**—Civic restaurant at Duke-st. B.E. & S., Town Hall. Dep. £2 2s.

***Berks C.C.**—Hutted classrooms and workshops, Institute of Further Education, Newbury. County A., Wilton House, Parkside-rd., Reading. Dep £2 2s.

Blandford (Dorset) R.D.C.—Erection of 6 houses at Tarrant Gunville. E. A. Down, Council A., 47, Boscombe Overcliffe-dr., Bournemouth. Dep. £3 3s.

Manchester T.C.—Conversion of "Moorbank" and "Garswood," Wilmslow-rd., Fallowfield. City A., Town Hall. Dep. £1 1s.

***States of Guernsey.**—(a) Erection of 58 houses at Port Soif, Grand Rocques, Castel; (b) roads, footpaths, etc. G. Heggs, States E., States Office. Dep. £2 for (a) and £1 for (b).

MARCH 28.

***Ilford T.C.**—Conversion of depot at Clarks-rd. into workshop and office accommodation. B.E. & S., Town Hall. Dep. £2 2s.

***Shipston-on-Stour R.D.C.**—6 houses at Barton-on-the-Heath. E. H. Earp (L.), Scholars-la. Stratford-on-Avon. Dep. £2 2s.

MARCH 29.

***Tutbury R.D.C.**—5 houses at Church-rd., Stretton. E. & S., Council Offices, "Kingsley," 44, Rolleston-rd., Burton-on-Trent. Dep. £1 1s.

MARCH 30.

Beverley (Yorks) R.D.C.—Erection of 4 houses at Scarborough. G. Palfreyman, E., S. & A., 36, Market-pl., Beverley. Dep. £1 1s.

MARCH 31.

***Leyton B.C.**—Prefabricated concrete framed building for additional offices for Medical Officer of Health at Sidmouth-rd. B.E. & S., Town Hall. Dep. £2 2s.

APRIL 4.

***Evesham T.C.**—42 houses at Fairfield. Pemberton & Bateman (F. & A.), 21, Vine-st., Evesham. Dep. £2 2s.

APRIL 5.

Harwich T.C.—Erection of 14 houses on Fronks-rd. site. Boro' A., King's Quay-st., Harwich. Dep. £2 2s.

APRIL 6.

Breconshire C.C.—Construction of prestressed concrete bridge over the river Tawe at Abercrave, Swansea Valley. County S., County Offices, Walton, Brecon. Dep. £5 5s.

†***Isle of Wight Standing Joint Committee.**—Single police houses at Seaview, Yarmouth, Ryde and Cowes. F. H. Booth (A.), County A., County Hall, Newport. Dep. £1 1s. each project. Tenders by May 4.

APRIL 12.

***Eton U.D.C.**—Seven shops with flats over at Meux Field site, Eton Wick. C., Council Offices. Dep. £2 2s.

***Eton U.D.C.**—16 houses at Tilston Field site, Eton Wick. E. & S., High-st. Dep. £2 2s.

***Salop C.C.**—Six pairs of firemen's houses at Springfield estate, Wenloch-rd., Shrewsbury. A. G. Chant, County A., Column House, London-rd., Shrewsbury. Dep. £2 2s.

APRIL 24.

***Weston-super-Mare T.C.**—76 houses at Summerlands estate. B.E. & S., Town Hall. Dep. £2 2s.

NO DATE.

***Castle Donington R.D.C.**—16 houses with street works at Broadhill-rd., Kegworth. McCarthy, Collings & Co., chartered architects, 187, Forest-rd., Coalville. Dep. £2 2s.

***Midhurst R.D.C.**—40 houses at West Lavington. T. Greenfield (F.), "Newstead," Midhurst, Sussex. Dep. £1 1s.

Skipton U.D.C.—Erection of two-bedroom houses on the Horse-cl. estate. May be for any number from six upwards. E. & S., Town Hall. Dep. £2 2s.

PAINTING, ELECTRIC LIGHTING, MATERIALS, ETC.

MARCH 18.

Bangor T.C.—City S. (Materials).
Exmouth U.D.C.—E. & S., Templetown Lodge. (Materials).

MARCH 24.

Droitwich B.C.—B.E. & S. (Materials).
Rushden U.D.C.—S. (Materials.)

MARCH 25.

Brierfield U.D.C.—S., Town Hall. (Materials).

MARCH 29.

Paignton U.D.C.—C. (Materials.)

ROADS, SEWERAGE AND WATER WORKS

MARCH 18.

***Tredegar U.D.C.**—Site preparation works for 100 Cornish Unit houses, Tynewydd (No. 2) site, Nantybwch. S. Dep. £3 3s.

MARCH 20.

Bolton C.B.—Surfacing with bituminous macadam of approx, 15,500 sq. yds. of carriageways on housing sites. B.E. & S., Town Hall.

Southgate B.C.—Making-up of Ash-gr., N.13. B.E. & S., Town Hall, Palmers Green, N.13. Dep. £2 2s.

MARCH 21.

Worthing B.C.—Private street works. Boro' E., Town Hall, Worthing. Dep. £2 2s.

MARCH 22.

Beverley B.C.—Construction of roads and sewers on the Swinemoor housing estate, stage III. B.E. & S., Municipal Offices, Lairgate, Beverley. Dep. £2 2s.

Carlisle C.B.—Advance preparation, Belah neighbourhood unit—concrete road and sewers. City E., 18, Fisher-st. Dep. £2 2s.

MARCH 27.

Acton B.C.—Construction of a sewer, precast concrete kerbs and a new carriageway at Oldfield estate, The Vale, W.3. B.E., Town Hall, W.3.

Beckenham B.C.—Making-up of part of Kent House-la. and also The Crescent, West Wickham. James Dove, A.M.I.C.E., E. & S., Town Hall, Beckenham. Dep. £2.

Finchley B.C.—Making up of three streets. P. M. Spencer, A.M.I.C.E., E. & S., 294-296, Regent's Park-rd., Finchley, N.3. Dep. £2.

Tendring R.D.C.—Road, surface water drains and soil sewerage work at Thorpe-Le-Soken housing site. E. & S., Council Offices, Weeley, Essex. Dep. £2 2s.

MARCH 28.

Altrincham B.C.—Making up of various roads and provision of surface water sewer. Boro' S., Town Hall, Altrincham. Dep. £2 2s.

Penzance B.C.—Construction of cast-iron and stoneware pipe sewers in the Gulval area, T.C., Municipal-bldgs. Dep. £2 2s.

MARCH 31.

Todmorden B.C.—Surface dressing of roads. B.E., Todmorden.

APRIL 1.

Keynsham U.D.C.—Construction of roads and drainage works on housing site, Norman-rd.,

Salford. E. & S., Council Offices, Keynsham. Dep. £2 2s.

APRIL 8.

Upper Witham Internal Drainage Board.—Construction and excavation works in connection with the Boultham and Swallowbech pumping scheme. J. Barratt, A.M.I.C.E., engineer to the board, Bank-st.-chbrs., Lincoln. Dep. £5 5s.

APRIL 10.

Cuckfield R.D.C.—Roads and sewer works at Balcombe site. A. Hutchings, M.I.Mun.E., E. & S., Council Offices, Bolton-rd., Haywards Heath, Sussex. Dep. £2 2s.

GENERAL BUILDING WORK

(LONDON)

Bermondsey.—REINSTATEMENT.—Bombay Wharf, Rotherhithe-st., is to be reinstated. Plans by L.C.C. Architects's Dept.

Bermondsey.—OFFICE AND WORKSHOP.—Plans have been prepared in L.C.C. Architects' Dept. for an office and workshop at Trinity Wharf, Rotherhithe-st.

Bermondsey. — LICENSED PREMISES. — Truman, Hanbury, Buxton & Co., Ltd., propose temporary licensed premises at "Star and Windmill," 216, Bermondsey-st.

Fulham.—ADAPTATION.—A £15,970 adaptation scheme is proposed by L.C.C. Welfare Comm. at Fulham-rd. hostel.

Harold Wood.—HOUSES.—Architects' Dept., West & Evans, Ltd., builders, 103, Sutton-la., Hornchurch, have prepared plans for further 8 houses at The Ridgeway site.

Hornchurch.—BUNGALOWS.—John H. Mason, architect, 160, Carlton-rd., Romford, Essex, has prepared plans for 21 bungalows at Alma-ave. for H. Webb, Builders, Ltd.

Hornchurch.—BUNGALOWS.—10 bungalows are proposed by H. Webb, Builders, Ltd., at Ascotgdns., for which the architect is John H. Mason, 160, Carlton-rd., Romford, Essex.

Hornchurch.—SHOWROOM, OFFICE AND STORE.—A. Wiskin & Co., Ltd., 2a, Cranthorpe-gdns., Upminster, are to erect a showroom, office and store at 150, Upminster-rd.

Kensington.—WELFARE CENTRE.—L.C.C. Health Comm. have given higher priority to proposed erection of a temporary welfare centre on Highlever-rd site (Kingsbridge-rd. portion). No plans have yet been formulated.

Lambeth.—TEMPORARY SCHOOL.—Subject to M. of E. approval, L.C.C. Ed. Comm. propose erecting huts to accommodate 240 children in Crown-la.

Rainham.—FACTORY EXTENSION.—Muvex, Ltd., Ferry-la., Rainham, are to carry out a £20,000 extension to their pure metals factory. Plans by Staff Architect, R. C. W. Medford.

St. Marylebone.—FLATS.—Negotiations are still in progress for acquiring a site in Queen's-ter. upon which to erect 26 flats for which plans have been prepared by Louis de Soissons, F.R.I.B.A., 3, Park-sq. Mews, N.W.1, and approved by B.C.

St. Pancras.—REPAIRS AND IMPROVEMENTS.—L.C.C. Ed. Comm. have approved scheme by Hugh Minty & Partners, F.R.I.B.A., 14, Bedford-row, W.C.1, for war damage repairs and improvements at Medburn school at £15,201.

Shoreditch.—ADAPTATION.—Wenlock-rd. school is to be repaired and adapted at an est. cost of £12,608. Plans by L.C.C. architects.

Upminster.—FLATS.—Proposal to erect flats for old people at Grayes Park-rd. and Sycamore-ave. was approved by Hornchurch Housing Comm. Council's architect is preparing tentative scheme.

Woolwich.—SHOPS AND FLATS.—Tenders are to be invited for the erection of 20 shops and 40 flats on Coldharbour estate, for which plans have been prepared by Boro' E.

Woolwich.—DWELLINGS.—Boro' E. has prepared scheme for 64 dwellings (contract No. 11) on Coldharbour estate. Tenders are being invited.

(PROVINCIAL)

Abingdon R.D.C.—Housing Comm. have approved draft layout for 50 dwellings on Lamborough Hill site, Wootton, Boars Hill, Oxford.

Accrington.—Licensing Justices approved plans for structural alterations, "The Dog and Partridge Hotel," Baxenden, for J. E. Threlfall.

Ashton-under-Lyne.—B.C. approved plans for extensions at Margaret-st. for S. Buckley & Co., Ltd.

Barnard Castle.—R.D.C. to build six houses at Woodland and four, Hamsterley.

Birkenhead-Chester.—Threlfall's Brewery Co. are to convert Hooton Grange mansion, lying between Birkenhead and Chester at corner of main Chester-rd. and Hooton-rd. into high-class hotel.

Bournheath.—Extensive improvements are proposed to "Nailers' Arms" by Ansells' Brewery Co., Ltd.

Bromsgrove.—R.D.C. approved layout for houses at Hopwood; propose extensions to council offices, Birmingham-rd. Plans by H. T. W. Gough, 45, Newhall-st., Birmingham.

Cannock.—U.D.C. to invite tenders for 54 houses and 28 bungalows, Bradbury-la., Hednesford. Surveyor, E. Lomax.

Cheshire.—C.C. propose a health centre, Weaverham. County A., F. M. Parkes.

Chesterfield.—B.C. approved layout for 92 houses at Newbold House estate.

Chester-le-Street.—U.D.C. to build 22 houses in Double Row, Newfield, and 12 in Grange-ter., Pelton Fell. Plans by U.D.C. Surveyor.

Chester-le-Street.—R.D.C. are to erect 200 houses on sites at Barley Mow, Ouston and Lumley. Plans by F. Bowman, R.D.C. Housing A.

Coventry.—A. H. Gardner, F.R.I.B.A., Eaton-rd., Coventry, in conjunction with City A., Donald E. E. Gibson, is preparing plans for a new 1,000-dwelling neighbourhood unit at Willenhall for T.C.

Durham.—C.C. is to build 40 houses at Sincliffe.

Durham.—Plans have been approved for pit-head baths, Bowburn Colliery.

Durham.—Schemes to be carried out by C.C. include: New Spennymoor Grammar Tech. Sch. (£243,500)—completion of Spennymoor Alderman Wraith Mod. Sch. (£90,000)—new Newton Aycliffe County Infants' Sch. (£41,400)—new Langley Park Mod. Sch. (£49,470)—completion of Stanley Grammar Sch. (£64,974)—new Mid-Tyne Tech. College (£204,000)—new Pennywell County Jnr. Sch. (£98,496)—new Pennywell County Infants' Sch. (£73,873)—new Hartlepool Throston temporary nursery sch. (£7,750)—new High Usworth County Infants' Sch. (£46,512)—new Durham Grammar Tech. Sch. (£257,500)—new Oxbridge-la. County Boys' School, Stockton (£20,000)—new college of further education, Billingham (£360,000). Hostels are proposed by C.C. at Hebburn, Billingham, Stanley, Bishop Auckland, Crook, Consett, Chester-le-Street, Peterlee, Newton Aycliffe, East Bolden, Seaham and Blaydon. C.C. to consider sites at Billingham and Wheatley Hill for fire stations.

Filey.—U.D.C. to invite tenders shortly for 20 houses. F. Vaux, A.R.I.B.A., 3, Belle Vue-cres., Filey, is architect.

Hereford.—Factory for Wm. Evans & Co., Ltd., is proposed. Architects, Willink & Dod, Liverpool.

Hyde.—B.C. approved plans for a dairy, Dukinfield-rd., for United Dairies, Ltd.; to prepare plans for adaptation of Alexandra Cinema, as festival theatre.

Jarrow-on-Tyne.—Plans by Boro' E. (H. W. T. Perkins) for 92 houses east of tunnel road have been forwarded to M.H. for approval; cost will be about £107,546 and work will be done by direct labour. R. Burke, 10, Lambton-road, Jesmond, Newcastle-on-Tyne, is architect for an R.C. church on South Leam-la. estate. Planning approval of scheme has been given. North-Eastern Breweries, Ltd., Stockton-on-Tees, have approached T.C. regarding sites on Leam-la. estate for licensed premises.

Lancs.—E.C.'s 1951 school-building programme in order of priority: Extensions to Dalton-in-Furness Dowdales Sec. Mod.—extensions to Morecambe Balmoral-rd. County Sec. Mod.—erection of Colne Park County Sec. Mod.—erection of Nelson Walton-la. County Infants'—extensions to Accrington Spring Hill County Infants'—erection of Rawtenstall Lomas-la. Infant and Jnr.—extensions to Maghull St. George's R.C. Infant and Jnr.

Erection of Maghull Grammar (Phase I)—erection of Hindley R.C. Sec. Mod.—erection of Huyton St. Dominic's R.C. Sec. Mod.—erection of Prescot and Huyton Girls' Grammar (Phase I)—extensions to Prescot St. Luke's R.C. Infant and Jnr.—erection of Huyton St. Aidan's R.C. Infant and Jnr. (Phase I)—Erection of Middleton Bowlee Infant and Jnr. County (provisional)—erection of Urmston Highfield County Jnr. and Infant.

Erection of Worsley Infant and Jnr. (Mount Skip)—erection of Worsley R.C. Sec. Mod.—erection of Failsworth Girls' County Sec. Mod.—erection of Chadderton Yew Tree Jnr. (Phase II)—extensions to Chadderton St. Matthew's C.E. Infant and Jnr.—erection of Droylsden Littlemoss County Sec. Mod.—erection of Ashton Lees-rd. Girls' County Sec. Mod.—erection of Stretford Firswood R.C. Sec. Mod.—erection of Widnes Ditchfield-rd. Infant and Jnr. (Phase I).

Manchester.—City A. to negotiate with J. Gerrard & Sons, Ltd., Swinton, for superstructure of Free Trade Hall—E.C. propose:—Conversion of boys' club to Building Trades School at Heyrod-st., Ancoats, at £47,825—reinstatement of war-damaged school for use as teachers' training college at Manchester Grammar School—old peoples' home at Broadway and Nuthurst-rd., Moston; approved in principle adaptation of 135, Lapwing-la., Didsbury, as hostel—included a primary school at Button-la., Wythenshawe, in 1950 programme.

Mansfield.—B.C. approved plans for: Shop at Ratcliffe Gate for Mansfield Sutton and District Co-op. Society, Ltd.—moulding shop, fettling shop and sand blast unit at Sherwood Foundry, Forest-rd., for James Maude & Co., Ltd.—factory and offices at Nottingham-rd. for Boneham & Turner, Ltd.; approved layout for 24 houses and 14 bungalows adjoining "The Woodlands" at Birding-st. estate.

Middlesbrough.—T.C. proposes buying 514 acres of land near Ladgate-lane for housing.

Middlesbrough.—Plans are to be prepared by Boro' E.'s Dept. for: A welfare centre on Thorntree estate—temporary maternity and child welfare centre at Thorntree—day nursery, Farndale-rd.—new hall at Broomlands—remand home accommodation—clinic in Fleetham-st.—civic restaurant at Trinity Hall—new hostel at Thorntree—disabled persons' hostel.

Newcastle (Staffs).—S. Bernstone is to construct a restaurant and snack bar at 6 and 7, Cross-st. Architect, C. Solomon, St. Mary's-pl., Newcastle.

Northwich.—U.D.C. approved layout for 650 houses at Leftwich Old Hall.

Rotherham.—B.C. propose ambulance garage and fire service vehicle repair and paint shop in Erskine-rd—approved revised plans for adaptations at Rotherstoke—propose erection of two children's homes at Kimberworth—district washhouse at £25,000—approved plans for shops, offices and flats at 17/21, High-st. for M. Burton, Ltd.—extensions to drawing office and reconstruction of store at Fullerton-rd. for Allott Bros. & Leigh, Ltd.

South Shields.—J. H. Morton & Son, Martins Bank-chbrs., Fowler-st., South Shields, are architects for rebuilding workshop and garage in Back Chichester-rd. for Barrass Bros.—Eckford & Fyfe, sawmillers, are to rebuild their sawmills on east side of Tyne Dock—S. H. and D. Graham Motion, chartered surveyors, 52, Westgate-rd., Newcastle-on-Tyne, have approached T.C. regarding a site in Leam-la. for licensed premises for North-Eastern Breweries, Ltd. Amended plans have been prepared for alterations to Stanhope House, Westoe Village, and specifications are to be prepared for alterations to "Rockcliffe," Westoe Village. Architect for both jobs is R. Collins, Russell-bldgs., King-st., South Shields.

Stafford.—Licensing Justices approved conversion of "Baswich House," Weeping Cross, into modern hotel for John Joule & Sons, Ltd., Stone.

Thornaby-on-Tees.—Boro' E. is to prepare plans for 74 houses on a site west of Thornaby-rd. for T.C.

Tynemouth.—Ed. Comm. is to build an infants' school at Cullercoats. Architect, J. R. Wallace, 20, Northumberland-sq., North Shields.

Tynemouth.—J. R. Wallace, Northumberland-sq., North Shields, has prepared plans for seven bungalows, Hart-rd., Marden estate, Beach-rd. and Hartburn-rd., etc.—William Stockdale, 73, Howard-st., North Shields, is the architect for 14 houses on various sites in Hartburn-rd., Broadway, and Beach-rd.—Priory Theatre Club are planning erection of a small theatre between Percy-st. and Stephenson-st., Tynemouth. Planning approval to plan has been given—Boro' E. (D. M. O'Herlihy) is preparing plans for eight shops at Marden—T.C., received sanction to borrow £8,263 for six houses, east end of North Shields—Plans are to be considered by T.C. for conveniences at Marden—William Stockdale, 73, Howard-st., North Shields, is architect for a gymnasium and staff rooms, etc., at Tynemouth High School.

Warwickshire.—E.C. seek loans for following schools:—Atherstone infants' (£26,000)—Castle

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Bromwich Sec. (Stage II) (£107,000)—Leamington Jnr. (£66,000)—Rugby College of Technology (extensions) (£75,500)—Newbold-on-Avon Jnr. (£64,000) and Infants' (£30,000)—Sutton Coldfield (Bannersgate) Jnr. (£61,000). County A., C. H. Elkins, Shire Hall, Warwick.

Whitchurch.—U.D.C. approved layout for 38 houses at Sedgford (East Side) site. Plans by surveyor, F. W. Sanders.

Wrexham.—B.C. received approval of Welsh Board of Health to proposed extensions to library.

TENDERS

* Denotes *accepted.*
† Denotes *provisionally accepted.*
‡ Denotes *recommended for acceptance.*
§ Denotes *accepted subject to modification.*
¶ Denotes *accepted by H.M. Government Departments.*

Abingdon.—Houses for R.D.C. Four at Appleton: *W. F. Pratley & Sons, Oxford, £6,006; ten at Drayton: *A Belcher & Son, Abingdon, £13,919; one block of four maisonettes at Raleigh Park estate, North Hinksey: *H. J. Taylor & Sons, Cowley, Oxford, £4,776; six at Drayton: *A. J. Robey, Didcot, £8,520; six at Fyfield: *C. Jordon, £8,025.

Bakewell.—Four houses at Monyash, for R.D.C.: *G. W. Mellor, Over Haddon, £6,460.

Blackburn.—Erection of St. Mary's R.C. School, Bennington-st.: *Middleton & Co. (Blackpool), Ltd., Blackpool.

Blaydon-on-Tyne.—Nine houses on a corner site at Litchfield-la., for U.D.C.: *Direct Labour.

Bolton.—16 houses, Harpers-la. estate, for T.C. T. P. Rae (L.), F.I.Hsg., Housing Director. *A. D. Primrose, Stork Joinery Works, Halliwell-rd., Bolton, £21,538.

Brandon and Byshottles.—20 houses for U.D.C.. F. Hedley, A.R.I.B.A., council architect: *Direct Labour.

Bromsgrove.—Houses for R.D.C. Six at Lavimer-cl.: *R. Kemp (Builders), Ltd., £7,898; two at Beoley: *H. Porritt, Ltd., £2,743.

Chesterfield. — Completion of the parish church of SS. Augustine. Architect, G. E. Charlewood, T.D., F.R.I.B.A., Newcastle-upon-Tyne: *C. E. Gaunt & Son, Ltd., West Bars, Chesterfield.

Chesterton.—13 houses in two parishes, for R.D.C. H. Jackson, A.R.I.B.A., 93, Harlington-gr., Cambridge. Quantities by G. L. Lewis, A.R.I.C.S.: *F. L. Unwen, Ltd., Hazeldene Works, Histon, Cambs.

Crayford.—32 houses and 15 bungalows at Slade Green housing scheme, No. 22, Part 1, for U.D.C. E. & S., Town Hall: *E. & M. Heath, Ltd., 42, Leyton Cross-rd., Dartford Heath, Dartford, Kent, £51,531 (subject to M.O.H. approval).

Cumberland.—Erection of rural type police stations, for C.C., at (a) Abbeytown and (b) Irthington. (a) *J. Laing & Sons, Dalston-rd., Carlisle; (b): *J. Millar & Sons, Carlisle.

Cumberland.—Erection of rural police station at Low Hesket, for C.C.: *J. Laing & Sons, Dalston-rd., Carlisle.

Darlaston.—44 houses at Cock Heath, for U.D.C.: *J. Ashmore, Ltd., West Brom., £52,623.

Derby.—Fire station, Nottingham-rd., for C.B. Thos. W. East (F.), Boro' A.: †Gee, Walker & Slater, Ltd., Uttoxeter Old-rd., Derby, £20,936.

Derby.—Reinstatement work after fire, Darley Abbey Mansion, for C.B. Thos. W. East (F.), Boro' A.: ‡Holmes & Sons, Ltd., 815, London-rd., Derby, £4,144.

Durham.—64 houses at Leamside, for R.D.C.: *Direct Labour, £71,270.

Durham.—Four farmworkers' houses, for C.C.: *D. Glen, Ltd., Albert-rd., Jarrow-on-Tyne, £4,790.

Glasgow.—New garage building for the Scottish Tar Distillers, Ltd., Chemical Works, Camelon, Falkirk, to be erected at Dalsholm-rd. *Fleming Brothers, Ltd., Refuge Assurance-bldgs., Bath-st., Glasgow, W.C.2.

Glasgow.—Additions, etc., at the Dalbeth Convent Schools. John MacNab, 129, Bath-st., Glasgow, W.C.2. General contractor, Peter Thaw, builder, Glasgow, E.C., £9,045.

Goole.—38 houses, Whincroft-av., Halifax-av. and Woodland-av., for T.C. D. C. Kean, B.E. & S.: *Bainbridge (Builders), Ltd., Brooke-st., Doncaster, £45,996.

Hyde.—36 houses at Harbour Farm estate, for B.C.: *Alfred Green (Moston), Ltd., Grosvenor-st. Works, Collyhurst, Manchester, £44,595.

Jarrow-on-Tyne.—Licence granted at £14,820, for alterations to factory on Bede estate, for British Celanese, Ltd. Architects, Cackett, Burns Dick and McKellar, 21, Ellison-pl., Newcastle-on-Tyne: *Middleton & Co. (Blackpool), Ltd., Darlington.

Kilmarnock.—New housing scheme at a Treeswoodhill-rd. site. James Hay & Steel (F.), 13, West George-st., The Cross, Kilmarnock. *Stuart & Son (Housing), Ltd., Charing Cross, Glasgow, W.C.2, £40,614.

Lanarkshire.—Housing scheme at Chryston site. Mr. Samuel MacColl, architect, County-chbrs., Beetford-st., Hamilton. Excavation, brick, building and allied work, etc., A. Wright & Sons (Builders), Ltd., Blantyre. Plumber work and sanitary engineering, etc., David Kirk, Ltd., Stonehouse. Joinery, carpentry and allied works, etc., George Wilson (Stonehouse), Ltd., Stonehouse.

Lancs.—Works for E.C. Extensions and alterations at I. M. Marsh College of Physical Education: *W. Tomkinson & Sons, Ltd., 3, Great Newton-st., Liverpool, £72,590; alterations to Garstang Branch Library: *G. Hill & Sons (Preston), Ltd.; additional accommodation at Lancaster Girls' Grammar School: *Bristol Aeroplane Co. (Housing), Ltd., Bristol, £17,418; erection of Fulwood Secondary Modern school: *Brown & Jackson, Ltd., Elm-st., Fleetwood, £171,109; extensions at Nelson Edge Secondary Technical school: *E. Taylor & Co., Ltd., Ebor Sawmills, Littleborough, £163,600; phase 1 of Lydiate Lambshear-la. Junior and Infants' school: *Tysons (Contractors), Ltd., Dryden-st., Liverpool, £111,061; erection of Ecclestone & Windle Junior and Infants' school: *Nor' West Construction Co., Ltd., Liverpool, £91,498; erection of Woolston Junior and Infants' school: *P. Hamer, Ltd., Swinton, nr. Manchester, £95,748; aluminium components: *Bristol Aeroplane Co. (Housing), Ltd., Bristol, £23,980; erection of Eccles Alder Park Junior and Infants' school: *W. Fearnley & Sons (Salford), Ltd., Eccles New-rd., Salford, £84,445; erection of Denton, Taylor-la. Secondary Modern school: *J. Gerrard & Sons, Ltd., Swinton, nr. Manchester, £223,434.

Lincoln.—Erection of Boultham Primary school, for E.C.: *The Lincoln Co-operative Soc., Ltd., Works Department, 10, Portland-st., Lincoln, £66,904.

Litherland.—Slipper baths, for U.D.C.: *Direct Labour, £6,650.

L.C.C.—Construction of temporary roundabout at intersection of Westminster Bridge-rd. and York-rd., and the widening of York-rd., Lambeth:—

Lavender McMillan, Ltd., Worcester Park, Surrey	£49,969
Ernest Knifton, Ltd., Edmonton ...	49,692
Percy Bilton, Ltd., Westminster ...	49,099
William Griffiths & Co., Ltd., E.C.2 ...	48,826
Walter Smith (Public Works), Ltd., Riverhead, Kent	48,512
*Fitzpatrick & Son (Contractors), Ltd., Poplar	46,870

Chief engineer's comparable estimate is £51,638 6s.

Improvements to lavatories at Friern school, Camberwell:—

Owen Johnson Building, Ltd., Deptford	£7,228
F. Allen & Son, Ltd., Deptford	6,740
A. J. Dunning & Sons, Woolwich ...	5,839
Norman, Wright (Builders), Ltd., Croydon	5,341
Greenaway & Son, Ltd., Camberwell ...	5,209
J. & C. Bowyer, Ltd., Croydon	5,193
Cobby & May, Ltd., Thornton Heath ...	5,150
Fredk. Smith & Co. (Builders), Ltd., Deptford	5,140
*Flowitt & Co., Ltd., Wimbledon	5,012

Architect's comparable estimate based on bills of quantities is £5,100.

¶London (Air Ministry).—Contracts to value of £500 or over for week ended March 4:—*Electrical work:* Higginbotham & Sons, Idle, Bradford. *Roofing work:* R. J. McKinney & Co., Ltd., Belfast. *Heating and hot water services:* G. S. Hall, Ltd., Stoke-on-Trent. *Repair runways:* General Asphalte Co., Ltd., London, S.W.1. *Painting work:* Reid Bros., Carlisle; W. J. Wood Building Renovators, Ltd., Manchester; British United Decorators, Ltd., London, S.W.18; T. H. Kenyon & Sons, Ltd., London, W.9; W. C. Simpson & Son, Ltd., Edinburgh; M. A. Appleton (Ctts.), Ltd., Wolverhampton. *Building work:* Jaques & Greeves, Ltd., Balby, Doncaster. *Erection of hutting:* A. Richmond & Sons, Retford, Notts; T. Lindsay & Sons, Belfast.

London (M.O.W.).—Contracts placed by M.O.W. for week ended February 25:—

London: Parliament-sq., improvement scheme, Various works, John Mowlem & Co., Ltd., 91, Ebury Bridge-rd., S.W.1; C.O.I., Montague-mansions, Crawford-st., W.1. Internal painting, Sykes & Son, Ltd., 8, Essex-st., Strand, W.C.2. *Cambridgeshire:* Queen's Senior School, Wisbech, Erection of additional classrooms, B. Stokeley, Henry-st., Peterborough. *Devonshire:* Hartland Forest, Site "C." Melbury Hill, Erection of one pair Airey houses, E. Cox & Lock, Cross Park, Bideford East.

Essex: M.N.I., 270-272, Heathway, Dagenham, Alterations and additions, Hammond & Miles, Ltd., Scrafton-rd. Works, Ilford; H.P.O., Clacton, Erection of new welfare accommodation, C. H. Chaston & Co., Ltd., Holland-on-Sea. *Gloucester:* C.D.T.C. Eastwood Park, Falfield. Completion of new garage and rescue training centre, H. J. Walker & Sons, Station-rd., Fishponds, Bristol. *Middlesex:* 139, Greenford-rd., Sudbury Hill, Harrow, Alterations for B.P.O., John Lewis Building, Ltd., 13, Alperton-la., Perivale. *Perthshire:* McLaren School, Callender, Erection of school classrooms, P. S. Nelson & Sons, Well-pl., Dunblane.

¶London (War Dept.).—Works contracts placed by War Dept. for week ended February 25:—

Devon: Painting work, N. S. Long, Ltd., Ltd., Poulton-Le-Fylde. *Devon:* Painting work, Harold G. Oates, Ltd., Bradford. *Wilts:* Painting work, J. Hood, Caldicott. *Hants:* Supply and erection of roller shutter doors, G. Brady & Co., Ltd., Manchester. *Norfolk:* Painting work, T. H. Kenyon & Sons, Ltd., London.

Macclesfield.—27 houses on Ivy-rd. estate: *H. Bamford, Bollington.

Manchester.—Works for T.C. 24 shops, 24 flats and 24 garages at Newall Green Main Centre: *G. Wimpey & Co., Ltd., London (revised tender); erection of Charlestown Infants' school: *Henry Green & Sons, Ltd., Stocks House, Cheetham Hill-rd., Manchester; additional classrooms at St. Malachy's R.C. school, Collyhurst: *E. F. Davies, Ltd., Farnworth; erection and completion of Newall Green Primary school: *Bristol Aeroplane Co. (Housing), Ltd., £175,831; public convenience at Sharston: *Beard Hall Estates, Ltd., Manchester; houses at Woodhouse Park and Moss Nook: *Ford Bank Estates, Ltd., Manchester (75); six three-storey houses at Collyhurst: *Direct Labour.

Middlesbrough. — Rebuilding of 12 war-damaged terrace houses in Orwell-st. and Mills-st.: *Premier Dwellings, Ltd., Cargo Fleet-la., Middlesbrough.

Newcastle.—Milk processing factory in Benton Park-rd., for the Newcastle and District Dairymen's Association. Plans by R. Burke, L.R.I.B.A., Lambton House, Lambton-rd., Newcastle: *Shield Bros., Ltd., Back Park-ter., Swalwell, nr. Gateshead.

Newcastle-on-Tyne. — Restoration of fire damage at Delaval Primary school, for E.C. G. Kenyon, City A., 18, Cloth Market, Newcastle: *R. W. Bell & Co. (Builders), Ltd., New Mills, Barrack-rd., Newcastle, £6,948.

Newcastle-on-Tyne.—36 houses at Longbenton: *Cussins (Contractors), Ltd., Jesmond, Newcastle.

Northampton.—72 houses at various sites, for R.D.C. R. J. Miller, Council Offices, 1, Cheyne-walk. Billing: †Holloway & Sons, Ltd., Clarence-av., Northampton, £8,955; Brafield: Holloway & Sons, Ltd., Clarence-av., Northampton, £8,919; Bugbrooke: Holloway & Sons, Ltd., Clarence-av., Northampton, £9,007; Cogenhoe: †Acme Building Co., Ltd., York-rd., Northampton, £8,957; Kislingbury: †Underwood & Weston, Lady's-la., Northampton, £5,977; Quinton: †Holloway & Sons, Ltd., Clarence-av., Northampton, £8,977; Roade: †Holloway & Sons, Ltd., Clarence-av., Northampton, £17,888; Wootton: †Holloway & Sons, Ltd., Clarence-av., Northampton, £14,893; Yardley Hastings: †Howard & Mason, Yardley-rd., Olney, Bucks, £8,503; Nether Heyford: †Acme Building Co., Ltd., York-rd., Northampton £14,735.

Northfleet.—25 houses at Coldharbour-rd. estate. Architects, G. E. Clay & Partners, 198, Parrock-st., Gravesend: *David Jones (The North Kent Construction Co.), White Hart-rd., Orpington.

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Mill-rd., Bothwell (16), J. N. McIntosh, 34, Bellrock-av., Prestwick, Electrical. Welton-rd., Mauchline (76), Durastic, Ltd., 257, West George-st., Glasgow, Floor finish. Mountfleurie, Leven (100), Barnet & Morton, Ltd., Kirkcaldy, Chain link fencing. Rosewell, Midlothian (2), Robert May, Manse-av., Whitburn, Plumber. West End, Armadale (130), James Strang & Son, Bellevue, Polmont, Fencing. Falside, Bathgate (76), James Strang & Son, Bellevue, Polmont, Fencing. Grieve-rd., Greenock (44), S.W. Scotland Electricity Board, Greenock, Service cable. Laighstonehall, Hamilton (52), Jas. Kilpatrick & Son, Ltd., River Cart-walk, Paisley, Electrical. Forehill-rd., Ayr (42), J. N. McIntosh, 34, Bellrock-av., Prestwick, Electrical. Shortlees, Kilmarnock (32), John Hannah, 98-100, Main-st., Newmilns, Electrical, Rankinston, Ayrshire (8), Barnet & Morton, Ltd., 190, High-st., Kirkcaldy, Fencing. Poltonhall, Midlothian (80), Scottish Gas Board, Lasswade District, Gas piping. Cairn Edward, New Galloway (18), J. Crosbie & Co., 20, Threave-ter., Castle Douglas, Excavator, mason and brick; J. & M. Scobie, Ltd., 72, Brooms-rd., Dumfries, Carpenter and joiner; J. Crosbie & Co., 20, Threave-ter., Castle Douglas, Roof tiler and roughcast; border Glass & Glazing Co., 48, College-st., Dumfries, Glazier; J. & M. Scobie, Ltd., 72, Brooms-rd., Dumfries, Painter; R. D. McCraith, 216, King-st., Castle Douglas, Electrical. Beith-rd., Johnstone (40), Jas. Kilpatrick & Sons, Ltd., River Cart-walk, Paisley, Electrical. Forehill-rd., Ayr (42), Jas. Cochrane & Sons, 36, Bridgegate, Irvine, Plumber. Beith-rd., Johnstone, S.S.H.A., Ltd., Site surfacing. Tullibody, Clackmannan, S.S.H.A., Ltd., Road and footpath surfacing. Menstrie, Clackmannan, S.S.H.A., Ltd., Road and footpath surfacing.

South Shields.—Conversion of Simonside Lodge into hostel, for T.C.: *Robson Brothers, Dean-rd., South Shields, £5,975.

Strand Theatre, Aldwych.—Renovations to stonework and other war-damage repairs. *G. Bollom & Sons, Ltd., 1a, Essex-rd., W.3.

Towcester.—14 houses and ancillary works, for R.D.C.: *S. G. Sale & Co., Ltd., Northampton, £20,230.

Tynemouth.—Erection of 12 firemen's houses, for T.C. Plans by B.E., 19, Howard-st., North Shields: *F. P. Dodsworth, Hill Heads-rd., Whitley Bay.

Wallsend.—Extensions to research house at Pametrada Research Station: *Purdie, Lumsden & Co., Oxford-st., Newcastle.

Whitley Bay.—10 houses on Seatonville estate, for U.D.C.: *William Leech, Ltd., Clayton-st., Newcastle-on-Tyne.

Widnes.—Six shops with 3 flats over at Hale-rd. estate for T.C. T. A. Brittain, A., Boro' A., Brendan House, Widnes-rd. Quantities by Gornall Wainwright, St. Helens. *Alex J. Clarke, Ltd., Fearnhead, Warrington (subject to M.O.H. confirmation), £9,400.

Winlaton.—Additional classrooms at County School, Winlaton, Co. Durham: *J. Jackson & Sons, 72, Corporation-st., Newcastle.

Worksop.—Houses for R.D.C. Eight at Ingham-rd., Bawtry: *Earle & Probert, Worksop, £10,987; four at Carburton: *J. J. Jackson, Worksop, £5,535.

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